

HOPE, SELF-EFFICACY, AND LEARNING GOAL ORIENTATION AS A  
MOTIVATIONAL SYSTEM IN THE ADOPTION OF A LEARNING  
MANAGEMENT SYSTEM AMONG  
COMMUNITY COLLEGE FACULTY

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## ABSTRACT

The purpose of this study was to evaluate the relationship between the motivational belief system components, self-efficacy, learning goal orientation, and hope, during the transition to a new learning management system, as well as the relationship between the motivational belief system and technology adoption. It addressed three research questions: (1a) Are the measures within the Faculty Beliefs Regarding Technology Adoption Scale distinct and reliable? (1b) Are domain specific measures of hope, self-efficacy, and learning goal orientation distinct and reliable? (2) What are the beliefs regarding technology adoption among faculty at community colleges across Mississippi? (3) What is the relationship among hope, self-efficacy, and learning goal orientation and beliefs regarding technology adoption? Participants were full-time and adjunct faculty members at community colleges across Mississippi ( $N = 288$ ). Results indicated that all measures were reliable and distinct. Community college faculty members were positive in their beliefs regarding technology adoption including comfort with technology, technology use, and institutional support. Females and adjunct faculty members reported greater technology use; older faculty with more teaching experience reported less comfort with technology; and faculty with more online teaching experience reported less institutional support. All motivation measures were positively correlated to all beliefs regarding technology measures. However, a path model revealed that learning goal orientation and hope agency were the only measures that were significantly related to all beliefs regarding technology adoption. Hope pathways was only significantly related to comfort with technology, and self-efficacy was not significantly related to

any of the beliefs regarding technology adoption. A discussion of the results and implications for practice follows the findings.

## DEDICATION

There are many people deserving of being chosen for this dedication, but I am going to focus on them in my acknowledgements. This dissertation is dedicated in loving memory to my aunt, Carol Gilliland, who was the first person I called with the news that I was admitted to the University of Alabama to pursue my doctoral degree.

## LIST OF ABBREVIATIONS AND SYMBOLS

$\alpha$	Cronbach's Index of Internal Consistency
$\beta$	Standardized Path Coefficient
$df$	Degrees of Freedom
$\eta_p^2$	Partial Eta-Squared
<i>GFI</i>	Goodness of Fit Index
<i>M</i>	Mean
<i>N</i>	Population Size
<i>p</i>	P-value: probability associated with the occurrence under the null hypothesis of a value as extreme as or more extreme than the observed value
<i>RMSEA</i>	Root Mean Squared Error of Approximation
<i>SD</i>	Standard Deviation
$\chi^2$	Chi-Square Value
<	Less Than
>	Greater Than
=	Equal To

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## CHAPTER 1

### INTRODUCTION

The world of higher education consists of administrators, faculty, and support staff. Of those individuals, faculty are the most important within the institution due to their interaction with students and their ability to create a learning environment that will allow the students, and therefore the institution, to grow. The success of an institution relies on the engagement of faculty, which ensures quality instruction and learning (Tabata & Johnsrud, 2008). Faculty engagement includes an interest in new instructional technologies, such as learning management systems, because learning management systems provide faculty with an electronic venue in which they can share files, present content, communicate with students between class meetings, and conduct various other teaching and learning activities (Beatty & Ulasewicz, 2006). Faculty members that view new technology positively are more likely to experiment with new options in their instruction (Baia, 2009). Considering this, the attitude of faculty members towards new instructional technology plays a large part in the success of implementing a new learning management system. Faculty with positive perceptions of new technology are more likely to use a new learning management system, and the perceived ease of use and usefulness of the system, along with the influence of peers and supervisors, should increase interest during the transition to the new learning management system (Tabata & Johnsrud, 2009; Ulrich & Karvonen, 2011).

A common trend observed during the transition to a new learning management system relates to the reluctance of faculty to adopt the new system and use it to its full capabilities. Recent research suggests that there are many potential reasons for faculty to be resistant to new technology. One set of reasons is institutional and includes lack of time and incentives to adopt the new technology (Lane & Lyle, 2011; Jones & Jones, 2008) and the lack of technical support, training, and workshops (Tabata & Johnsrud, 2008).

Another set of reasons for reluctance to adopt a new learning management system is personal attributes of faculty, such as the added stress of learning the new system (Baltaci-Gotalay et al., 2006). Additional personal attributes include motivational constructs that influence an individual's cognitive processes regarding the adoption of new technology, such as viewing the adoption process as an opportunity to learn additional skills, develop plans to implement and use technology in instruction, and persist when failures surrounding technology are encountered. Three such motivational constructs are goal orientation – reasons for goal adoption (Elliot & Dweck, 1988); self-efficacy – beliefs about whether one can effectively use technology (Bandura, 1986); and hope – beliefs about one's will to achieve a goal and ability to develop ways to achieve a goal (Snyder et al., 1991). Personal attributes can act as predictors of early adoption of the new technology, with the early adopters displaying positive attitudes towards the new tool in addition to acting as change agents for other users during the transition (Zayim et al., 2006). For example, goal orientation has implications in professional training and skill building contexts in addition to affecting personal outcomes, such as self-efficacy (Bell & Kozlowski, 2002); a learning goal orientation leads to mastery of the skills needed to succeed, which leads to increased self-efficacy in one's ability to perform the tasks. Together, learning

goal orientation and self-efficacy predict behavior, with individuals with a learning goal orientation presenting an adaptive response pattern to new task, engagement with the task, and persistent attitude (Brett & VandeWalle, 1999). High levels of learning goal orientation act as a shield against the effects of failure, which increases, if not maintains, self-efficacy (Bell & Kozlowski, 2002).

Although learning goal orientation and self-efficacy form a powerful system to influence the adoption and use of technology, there are potential gaps within this system. One gap is not only the belief that one can successfully use the technology, but a determined belief that one will use the technology and integrate it in to his or her instruction. Such determined beliefs, in synergy with a learning goal orientation, should provide a buffer when obstacles arise during the adoption process. A second gap is the belief that one has ways to successfully adopt technology. As was noted above, there are multiple obstacles (stress, lack of time, lack of support, etc.) that often prevent faculty from adopting new technology. If a potential user believes that they can identify ways to overcome these obstacles, along with a determined will to overcome any impediment, then these beliefs should also provide a buffer for faculty against any hindrances. The goal-directed actions of faculty who have the will – a determined belief that they will use technology and the ways – resources to achieve their technology goals and overcome obstacles is known as hopeful thinking, or hope for short (Snyder et al., 1999). When combined, this system of learning goal orientation, self-efficacy, and hope should create a motivational belief system in which technology adoption is viewed as an opportunity to learn (learning goal orientation); something that faculty believe they can learn/adopt successfully (self-efficacy); and something

that they believe they will find a way to adopt regardless of the obstacles that are encountered (hope).

#### Statement of Problem

Although this motivational belief system should relate to increased technology adoption, there is no research to date that has explored the relationship between hope and technology adoption, little research that has explored the relationship of learning goal orientation and self-efficacy to technology adoption, and no research that has explored the relationship of all three constructs as a motivational belief system as a predictor of technology adoption, in addition to a lack of measures specific to self-efficacy, learning goal orientation, and hope in regards to technology adoption. Also, there is a lack of research focusing faculty beliefs regarding technology adoption, which is relevant because the adoption of technology should be of enough importance to the individual that the motivational belief system components, individual and working in synergy, will become active during the learning process.

#### Statement of Purpose

The purpose of this study was to evaluate the relationship among a motivational belief system of self-efficacy, learning goal orientation, and hope, and beliefs regarding technology adoption during a state-wide community college transition to a new learning management system. The participants of this study were the full time and adjunct faculty within the Mississippi Virtual Community College (MSVCC) system that completed introductory level training and were currently using the new LMS in their instruction.

## Significance

Evaluating the relationships within the motivational belief system during the transition to a new Learning Management System provided several contributions to current literature. First, this study introduced an initial validation of domain specific measures for the adoption and use of a new Learning Management System regarding self-efficacy, learning goal orientation, and hope. Second the study analyzed faculty beliefs regarding technology adoption. Third, this study developed an understanding of the relationship between the motivational belief system and faculty beliefs regarding the adoption of the learning management system.

By establishing these measures and relationships, the study provided the educational technology community with instruments that will aid trainers and support staff members in their evaluations of who will adopt and use new technology at their institution. This allows trainers and support staff to target BETA testers and change agents within their institution and locate and remove potential obstacles during the introduction of the technology, in addition to identifying the users who may be reluctant users during the adoption process.

## Conceptual Framework

The adoption of new technology, particularly a new learning management system, can be greatly influenced by the faculty users and their motivation to become comfortable with the new system. The conceptual foundation for this study was based in part on Social Cognitive Theory (Bandura, 1986), Goal Theory (Elliot and Dweck, 1988), and Hope Theory (Snyder et al., 1991). In Social Cognitive Theory (Bandura, 1986), self-efficacy is defined as an expectancy of ability to achieve a goal, with outcome expectancies representing the individual's confidence in the

outcomes of their actions when pursuing a goal. Goal Theory implies that a relationship exists between a learner's goal orientation and behavior (Elliot & Dweck, 1988), with learners who are engaged in their own learning actively assessing cognitive demands of a new task, developing strategies to accomplish the task, and monitoring the progress of their learning (Covington, 2000). The behavior patterns of one with a learning goal orientation are reflective of hopeful thinking, which relates to the setting and achieving of goals. In hopeful thinking, goals define mental action and anchor the cognitive processes of hope (Snyder, 1994). Hope consists of one's assessment of the goal in terms of two components, agency and pathways thinking, which are necessary units for hopeful thinking and must work together in order for a goal to be achieved (Snyder, 1991). As stated above, learning goal orientation, self-efficacy, and hope combined should create a motivational belief system in which technology adoption is viewed as an opportunity to learn, something that faculty believe they can and will learn/adopt successfully, and something that they believe they will find a way to adopt regardless of the obstacles that are encountered.

### Research Questions

Based on the findings of related research and the conceptual framework, three research questions will guide this study:

1. Are the domain specific measures of technology beliefs and motivation distinct and reliable?
  - a. Are the measures within the Faculty Beliefs Regarding Technology Adoption Scale distinct and reliable?
  - b. Are domain specific measures of hope, self-efficacy, and learning goal orientation distinct and reliable?

2. What are the beliefs regarding technology adoption among faculty at community colleges across Mississippi?
3. What is the relationship among hope, self-efficacy, and learning goal orientation and beliefs regarding technology adoption?

#### Assumptions of the Study

The study had the following assumptions:

1. The participants were representative of community college faculty who use a learning management system in their instruction.
2. The respondents were truthful and honest when completing the questionnaires.
3. The instructions for the data collection instruments adequately explained what is expected of each of the respondents who complete the questionnaire.
4. The research instruments were designed to elicit appropriate responses and were reliable and valid.

#### Limitations of the Study

The study had the following limitations:

1. Data collection took place during the Spring of 2015. Therefore, the study findings are indicative of the time period of the study.
2. The data collection and intent of the study was limited to the Mississippi community college system.

3. The participants of the study were full time and adjunct faculty from the Mississippi community college system. Therefore, the results cannot be generalized to all higher education faculty. The participants of the study were selected based on their voluntary and informed consent to participate in the data collection process. Therefore, the study was limited to the number of faculty members who agree to participate in the research process.

### Definition of Terms

*Learning Management System:* A learning management system (LMS) is a form of software application or web-based technology that is used to plan, implement, and assess learning processes. Learning management systems provide instructors with options for the creation and delivery of content, ways to monitor student participation, and the ability to assess student performance. Learning management systems also provide features for students such as threaded discussions, video conferencing, and supplemental materials for their courses (TechTarget, 2013).

*Self-Efficacy:* An expectancy of ability to achieve a goal, with outcome expectancies representing the individual's confidence in the outcomes of their actions when pursuing a goal (Bandura, 1986).

*Goal Orientation:* One's personal reasons for the adoption of goals (Elliot & Dweck, 1988).

*Hope:* One's beliefs about one's will to achieve a goal and ability to develop ways to achieve a goal (Snyder et al., 1991).

*Motivational Belief System:* The combination of goal orientation, self-efficacy, and hope as a cognitive motivational set.

*Canvas by Instructure:* The LMS adopted by the Mississippi community college system during the 2013-2014 academic year.

### Summary

As new technology comes available for use in the classroom, the need for understanding the adoption process in regards to faculty will increase. This presentation of the study will be organized in to five chapters. Chapter 1 contained an introduction, statement of the problem, statement of purpose, significance of the problem, research questions, conceptual framework, assumptions and limitations of the study, and a definition of terms. Chapter 2 provides a review of literature related to the adoption of new technologies, self-efficacy, a history of goal theory, and hope theory. Chapter 3 outlines the methodology that will be used to conduct the study, while Chapters 4 and 5 will present the results of analysis and offer a discussion of the findings.

## CHAPTER 2

### LITERATURE REVIEW

Previous research focused on goals has offered a path to “identify patterns of behavior, cognition, and affect that are more adaptive” (Dweck, 1992, p. 166). A high hope of success regarding the goal, a low fear of failure, and a high value placed on the goal combine to form the motivation to achieve. The concept of goal pursuit underlies all achievement motivation constructs. The setting and achieving of goals, along with supporting cognitive processes, drives us in our day to day lives in many ways. Goals can be as simple as just getting out of bed to face the day, as complex as winning a Nobel Peace Prize, or exist as assumptions such as performing well at work or school is a key to success. The setting of goals plays an important role in our personal growth and development. Goals provide us with the opportunity to increase our confidence and skills as we work towards achieving something we desire, motivate us to aspire to reach the next level, and offer proof of our accomplishments once attained. In this ever-changing and evolving world, a goal that is becoming a necessity is that of keeping up with new technology. Technology is rapidly shaping the world in which we live, and the ability to adopt and use technology is becoming a necessary skill, especially in the world of education. With the demand for online course offerings increasing, faculty members are being called upon to use technology more frequently in their instruction. In consideration of this, this paper addresses the questions: What are the beliefs of faculty in regards to technology adoption? What motivational

constructs will influence faculty's adoption of technology, such as a new learning management system? One of the primary ways in which achievement motivation research has conceptualized motivated goal pursuit is in terms of self beliefs, specifically competence and control beliefs.

Regardless of the source of influence being external or internal, one's feelings about their self, also known as self beliefs, provide a direction for motivational energy towards a goal. Schunk and Zimmerman (2006) define self beliefs as the beliefs that people have about thoughts, feelings, and actions. This includes their personal thoughts and the thoughts of others in regards to the individual, such as judgments. Self beliefs are formed throughout the course of one's life, and the beliefs evolve and change with one's experiences. Self beliefs can be further broken down in to competence and control beliefs, which function together as part of a dual motive theory for achievement motivation, which has become one of the primary ways in which achievement motivation is conceptualized (Schunk & Zimmerman, 2006). Within dual motive theory, competence beliefs represent one's perceptions about their means, processes, and capability to accomplish tasks. Competence beliefs come in to play during self-evaluation that takes place prior to attempting achievement when means and processes are selected to learn or perform actions. Self-evaluation during this time is necessary because one must weigh knowledge, skills, and available strategies against the demands of a task to determine competence. Control beliefs, the second component of dual motive theory of achievement motivation, reflect perceptions about the chances of accomplishing a desired end, outcome, or goal. These beliefs of control help link learning and/or actions with desired outcomes or achievements under certain conditions. Conditions to learn or perform an action sometimes unfavorable, therefore control beliefs relate to evaluation regarding the outcome of the goal

(Schunk & Zimmerman, 2006). An individual who believes that they have positive control over an outcome is more likely to choose to engage in learning situation, expend the necessary amount of effort towards a task, and persist in the face of obstacles (Rotter, 1966). An important understanding about competence and control beliefs is that feelings of competence can be present without feelings of control and vice versa. One can feel that they possess the knowledge and skills required for success when transitioning to a new learning management system, yet they may feel that they have not received proper instruction in the new system to use their knowledge and skills, which will result in failure during the adoption process. An individual without positive beliefs of both confidence and control is not likely to attempt to achieve a desired outcome or goal (Schunk & Zimmerman, 2006), such as adopting and using a new learning management system in their instruction. This study utilized three motivational constructs that map well to the concepts of competence and control. I argue that self-efficacy, learning goal orientation, and hope form a motivational set in the pursuit of technology adoption.

### Achievement Motivation

Extrinsic motivation can be described as pursuing a goal in order to obtain a separable outcome, such as recognition, whereas intrinsic motivation is defined by working towards a goal for its own rewards and sense of accomplishment. Intrinsic and extrinsic motivational factors are present in all individuals. However, the ratio of intrinsic motivation to extrinsic motivation is a predictor of achievement, with intrinsic motivation being critical to success and high achievement (Hayenga, 2010; Waschull, 2005; Wighting et al., 2008). Motivation, whether extrinsic or intrinsic, is linked to cognitive performance (Miller, 2012). The reciprocal nature of

motivation and cognitive processes demonstrates that self-efficacy, learning goal orientation and hopeful thinking can affect an individual's ability to maintain learning over time and achieve success.

### Self-Efficacy

Bandura's (1986) presentation of Social Cognitive Theory suggested efficacy and outcome expectancies as influences to achievement motivation, with both components being necessary to optimize motivation (Zimmerman, 2000). Self-efficacy is described as a judgment one's of ability to achieve an outcome or goal and perform at a designated level (Bandura, 1986; Bandura, 1997), and these judgments are made by assessing one's ability to achieve a task and one's confidence in their cognitive skills to learn (Pintrich, 1999). Self-efficacy judgments are developed during an assessment process in which individuals evaluate and combine many personal and environmental factors, such as perceptions of ability, task difficulty, and available assistance (Bandura, 1997; Schunk, 1995). These assessments for beliefs regarding the individual's self-efficacy towards the domain in question are translated in to actions, which lead towards completion of the task or goal via controllable behaviors (Bandura, 1997; Bandura, 2001). The belief that individuals can control their behavior in attaining the goals they set for themselves is part of the foundation of self-efficacy. People possess the will to direct their effort, and effort is aimed by selecting behaviors that they control in order to produce desired results, such as reaching a goal or learning a skill. Individuals focus their effort to the point of achieving a desired objective, and more difficult objectives require a greater effort. An increased difficulty level of objectives or goals has shown to lead to increased performance on tasks (Bandura, 1997;

Locke, 2001). Self-efficacy is a key determinant of one's task performance, and it has been shown to have diverse effects in many areas of psychosocial functioning (Bandura, 1986; Bandura, 1997).

In regards to competence and control beliefs, efficacy expectancies align with competence beliefs while control beliefs are reflected in outcome expectancies. Efficacy expectancies and competence beliefs evolve out of an individual's self-assessment of their abilities and skills to complete a task or achieve a goal. Self-efficacy represents a key competence belief that is linked to goal setting and selection of strategies for achieving the goal; individuals with high efficacy expectations monitor their performance and make adjustments while working towards a desired outcome, which promotes a sense of agency that one can influence their life. Outcome expectancies represent the individual's confidence in the outcomes of their actions when pursuing a goal. Control beliefs relate to outcome expectancies because both include beliefs about the outcomes of actions/effort towards a task or goal, regardless of whether or not control of the outcome is internal or external. Efficacy and outcome expectancies, as with competence and control beliefs, are both needed to optimize achievement motivation towards a task, outcome or goal. Considering this, competence perceptions and control beliefs are integral parts of Social Cognitive Theory due to the relationships to efficacy and outcome expectancies (Bandura, 1986; Schunk & Zimmerman, 2006).

Self-efficacy is a prevailing research theme in many domains, including education and job performance. In regards to education, research has shown that self-efficacy is a key predictor of learning, motivation, and achievement (Pajares, 1996; Schunk, 1995; Schunk & Pajares, 2004). Academic achievement and self-efficacy participate in a reciprocal relationship with each

other. Self-efficacy for learning and performance is a predictor of academic achievement (Diseth, 2011; Multon, Brown, & Lent, 1991; Ning and Downing, 2010; Ozlem & Uyar, 2013). Likewise academic achievement is a source of power for raising self-efficacy in students (Arslan, 2012; Bandura, 1997; Britner & Pajares, 2006; Hampton, 1998; Usher & Pajares, 2006). In addition to having a relationship with academic achievement, self-efficacy manifest additional positive attributes within learners. Students with higher self-efficacy about learning expend more effort towards a task and persist longer in pursuit of their goal, especially when obstacles are encountered. These students can focus on learning, plan their motivational and learning strategies, and monitor their progress (Schunk & Zimmerman, 2006). In regards to academic goal pursuit, self-efficacy impacts task choice, effort, and persistence. Students with high self-efficacy have a plan to persevere when confronting obstacles and they approach difficult tasks with confidence. These students are more likely to be sure of themselves when facing problems and searching for solutions, and the students put in a greater effort to achieve academically (Ozlem & Uyar, 2013; Schunk & Pajares, 2002; Sungur & Gungoren, 2004).

Characteristics for efficacious students also carry over to professionals in task performance on the job. In the professional world, self-efficacy represents people's judgments of their abilities to organize and execute courses of action required to achieve designated types of performances needed in the workplace, with high self-efficacy being a strong predictor of performance (Aktag, 2013; Emich, 2012). Within the workplace, professional development is a key area that reflects the benefits of high self-efficacy among employees. Mastery experiences, such as hands on learning environments that build new skills, have a strong effect on self-efficacy. Professional development that teaches mastery of skills needed for success increases

the self-efficacy of employees (Palmer, 2011; Tatar & Serkan, 2013). Task environments in professional development influence employee performance by impacting the link that people see between their own efforts and desired outcomes, which can be performance or personal. Performance outcomes are associated with improvements in task or job performance, whereas personal outcomes relate to expectations of change in image or status or expectations of rewards such as raises or promotions (Aktag, 2013; Bandura, 1997; Eden, 2001). Self-efficacy, as well as workplace achievements, can be increased by offering employees the options to master skills and build confidence applying their new skills in a task environment.

### Goal Orientation

Goal orientation can be thought of as a collection of beliefs regarding short and long term goals; the beliefs an individual holds regarding their goals influences how a variety of tasks will be approached and explains why the goals are important to the person (Meece, Blumenfeld, & Hoyle, 1988; Woolfolk-Hoy & Hoy, 2006). Individuals have “different ways of approaching, engaging in, and responding to achievement situations” (Ames, 1992, p.261), and the collection of beliefs regarding goals can be conceptualized as a mental framework for how an individual will interpret and respond to achievement situations. Goal orientation influences the pattern of cognition and action that results from pursuing goals (DeShon & Gillespie, 2005), as well as how effort and ability will be used during an achievement scenario. How one chooses to cope with an achievement task may affect different aspects of behavior, such as persistence towards the chosen task, the reaction to possible failures, and expectations of performance (Brett & Vandewalle, 1999; Dweck, 1986; Dweck, 1999; Dweck & Leggett, 1988).

Goal orientation is usually identified as either a performance or learning goal (Dweck & Elliot, 1983). The difference between performance and learning goals can be viewed as the individual either proving or improving his/her competence and abilities (Dweck, 1992). Individuals that display performance goals prefer to demonstrate their skills with little effort, avoid showing difficulty during the task, and seek recognition for their accomplishments. Individuals whose goal orientation is focused on learning goals favor constructing new knowledge, developing confidence by improving or acquiring new skills or mastering new situations, and working towards personal improvement, in addition to processing information at a deeper cognitive level (Good & Dweck, 2006, Kizilgunes, 2009; Elliot & Harackiewicz, 1996; Tapola, 2008; VandeWalle, 1997, 2001). A relationship exists between one's goal orientation and behavior (Elliot & Dweck, 1988), with individuals who are engaged in their own learning actively assessing cognitive demands of a new task, developing strategies to accomplish the task, and monitoring the progress of their learning (Covington, 2000).

For the purpose of this study, a deeper understanding of a learning goal orientation is required. A learning goal orientation is linked with an incremental theory of ability, and it is characterized by increased effort, overcoming of obstacles, and initiation in order to attain personal growth (Dweck & Leggett, 1998). Individuals with a learning goal orientation tend to believe their abilities are malleable, which allows for them to approach new or challenging goals with an intention to develop skills and abilities (Phillips & Gully, 1997). A learning goal orientation is an adaptive motivational construct that is associated with approach oriented activities including effort, persistence, and task absorption (Elliot et al., 2005). Learning oriented individuals are intrinsically motivated to pursue challenging tasks from which they can

learn and become more knowledgeable (Belschak & Den Hartog, 2010; Button et al., 1996; Gerhardt & Luzadis, 2009; LePine, 2005). Prior research also proposes that learning oriented individuals are more likely to invest more resources on problem solving, in addition to possessing a positive attitude towards change (Chen & Mathieu, 2008; VandeWalle, 2001). Individuals with a high learning goal orientation try to develop their efficiency and learn new skills (Kaplan et al., 2002), as such individuals with a strong learning goal orientation will increase effort, attempt different strategies, and stay focused, which results in striving for their end goal (Dweck & Leggett, 1988; Lee, Sheldon, & Turban, 2013; VandeWalle et al., 2001).

Competence and control beliefs are manifested in the attitude and behaviors of an individual with a learning goal orientation. Goal orientation influences an individual's confidence level, which influences goal type (Phillips & Gully, 1997; Chen et al., 2000). Challenging goals become appealing to individuals with a learning goal orientation because the increased difficulty tasks provide the opportunity to increase one's sense of competence (Dweck, 1986). A learning goal orientation focuses the individual's attention on the processes and strategies that aids in acquiring skills and improving competence, in addition to maintaining efficacy perceptions of competence when confronted with difficult tasks. Control beliefs are promoted within learning goal oriented individuals by the tendency to monitor cognition, awareness of learning, and use of learning strategies in regards to the control of outcomes or goals. Since a learning goal orientation focuses on the acquisition of skills, individuals feel a sense of control over outcomes because they are able to adopt strategies that help them learn and gauge their progress, which sustains motivation towards achievement. Based on the relevant

literature, goal orientation includes both competence and control beliefs (Schunk & Zimmerman, 2006).

Considering the traits of an individual with a learning goal orientation, one can imagine how goal orientation can have a positive effect in academics and the workplace. In the classroom, a learning goal orientation is linked to higher motivation to learn, self-efficacy, increased meta-cognitive activity such as planning and cognitive regulation (Ford, Smith, Weissbein, & Gully, 1998; Kozlowski, 1998; Payne et al., 2007; Was, 2006), feedback seeking (VandeWalle et al., 2000), and improved transfer of knowledge (Kozlowski et al., 2001). Past research has consistently demonstrated that students with a learning goal orientation are more likely to take risks in their studies, use deep processing strategies, and are more comfortable working on their own; those with a learning goal orientation are focused on learning for the sake of learning (Ames & Archer, 1988; Husman et al., 2005; Radosevich et al., 2014; Seijts et al., 2004). By being focused on learning and developing new skills, learning goal oriented students believe that they are improving their ability to learn, developing their efficiency, and adopting new ways of thinking (Ames, 1992; Kaplan et al., 2002). Learning goals are also related to classroom performance, with students that maintain a learning goal orientation performing at a higher level academically and being more involved in the classroom (Button et al., 1996; Roebken, 2007; Wolters, Shinley, & Pintrich, 1996). Testing ability is also influenced by learning goal orientation; students with a high learning goal orientation perform better than their peers, exhibit less test anxiety, and demonstrate confidence in their ability to perform well (Bell & Kozlowski, 2002; Chen et al., 2000; Eum & Rice, 2011; Phillips & Gully, 1997). In the

workplace, many of the characteristics of learning goal oriented students carry over to employees.

In regards to work settings, different types of achievement goals influence outcomes (Baranik, Barron, & Finney, 2007; Elliot & Church, 1997). Goal orientation has emerged as a common research topic in work motivation literature due to research programs conducted by Don VandeWalle and colleagues (Brett & VandeWalle, 1999; VandeWalle, 1997; VandeWalle, Brown, Cron, & Slocum, 1999; VandeWalle, Cron, & Slocum, 2001; VandeWalle & Cummings, 1997). In the majority of work motivation research, there are many common themes regarding goal orientation that have important implications in work environments, especially those that demand continuous learning and adaptation (Steele-Johnson, Beauregard, Hoover, & Schmidt, 2000). Research has consistently shown that a learning goal orientation has a positive effect on motivation and proactive and adaptive work role performance (Butler, 1987; Chen & Mathieu, 2008; Fisher & Ford, 1998; Ford, Smith, Weissbein, Gully, & Salas, 1998; LePine, 2003; Marques-Quinteiro & Curral, 2012; Schraw, Horn, Thorndike-Christ, & Bruning, 1995; Stevens & Gist, 1997; Treasure & Roberts, 1994). High learning orientation individuals focus their attention during training or professional development on the development and refinement of skills (Brett & VandeWalle, 1999), with skill acquisition being predicted positively when combined with feedback (Chen & Mathieu, 2008). Individuals with a high learning goal orientation view feedback as useful for improving performance and developing skills (VandeWalle & Cummings, 1997; VandeWalle et al., 2000). In addition to feedback seeking, skill acquisition, and improving performance, employees with a learning goal orientation are

more likely to take greater risks in regards to goal setting within the work environment (Chia et al., 2000).

## Hope

Snyder et al. (1991) reconceptualized the idea of hope with hope no longer being considered an emotion. Instead, hope is visualized as a cognitive motivational system in which individuals actively pursue their goals. This new idea of hope is defined by one's perceived capacity to develop workable goals, find routes to those goals, and become motivated to use those paths to the goals (Snyder, 1994, 2000). In hopeful thinking, goals define mental action and anchor the cognitive processes of hope (Snyder, 1994). Goals can be small or large in nature, and goals can represent a marker of an achievement in the present or future. However, goals must be of value or importance to an individual in order to sustain the necessary attention for pursuit (Snyder, 2005). The foundation of hope lies in the ability to create a bridge between goals and the ability to use strategies to reach the goal (Hinton-Nelson, Roberts, & Snyder, 1996).

Hopeful thinking, in general, can be described as a way of thinking about one's goals, in addition to the motivation and the methods needed to achieve said goal (Snyder et al., 2002). Hopeful thinking is not defined by the intrinsic or extrinsic factors that influence goal setting, and it is a self-correcting process that is actively modified during the pursuit of a goal (Wroblewski & Snyder, 2005). Self beliefs regarding an individual's ability to successfully engage in hopeful thinking are hierarchically organized, with global hope beliefs encompassing achieving goals in general, domain specific beliefs relating to goals within a certain domain, and goal specific

beliefs representing a particular goal (Snyder et al., 2002). Hopeful thinking consists of one's assessment of the goal in terms of two components, agency and pathways thinking, which are necessary units for hopeful thinking and must work together in order for a goal to be achieved (Snyder, 1991). The agency and pathways components of hope are the foundations to achieving a goal. The agency component is the motivational aspect of hopeful thinking. Agency represents one's driving force towards reaching a goal; the ability to motivate oneself to maintain pursuit of the goal along with one's attitude and sense of determination create the agency component (Snyder, 1991, 2002, 2005). Pathways thinking relates to the planning process of reaching goals, and it "reflects the perception that we can find one or more effective avenues to attain our desired goals. Furthermore, when we encounter obstacles that block our goal pursuits, we must think of alternative routes to reach the goals" (Snyder, 2005, p.75). Hopeful individuals produce many paths to a goal in order to circumvent possible obstacles to goal achievement (Snyder et al., 2002). The agency component, or the motivation to reach the goal, becomes useless unless it can be channeled in to new pathways to the goal (Snyder, 2005). It is through agency thoughts that an individual is sufficiently motivated to initiate and sustain movement along pathways towards goals (Snyder et al., 2002).

Snyder (1997) linked self-esteem (competence) and control by explaining that as an individual controls his or her self while reaching standards or goal, they experience higher self-esteem (sense of competence). Control is defined specifically as cognitive model where individuals evaluate the contingencies in their lives so as to attain or avoid outcomes based on their desires (Snyder, 1997). In taking a closer look at the relationship between hope and competence and control beliefs, one can see that the agency component of hopeful thinking can be

related to competence beliefs (Schunk & Zimmerman, 2006) because the concept represents an individual's self-assessments regarding the abilities to pursue a goal. Control beliefs (Schunk & Zimmerman, 2006) are reflected in pathways thinking due to the need of the individual to assess the likelihood of accomplishing a goal in addition to devising strategies to reach the goal. As with competence and control beliefs, both of which need to be present in order for a goal to be attempted, the agency and pathways components of hope must both be active in order for goal pursuit to become a reality.

In regards to education, hope shares a positive relationship with many aspects of academic success in students of all ages (Snyder, Cheavens, & Michael, 1999). High hope students are able to approach their academic goals with a focus on success (Conti, 2000), which allows them to set learning goals that provides a slightly more difficult level of study and performance (Snyder, Feldman, Taylor, Schroeder, & Adams, 2000). Because students with high hope report significantly higher academic and interpersonal satisfaction (Chang, 1998), these students experience an increase in their perceptions of competence and ability to cope (Snyder et al., 1997). Recent research has shown that hope predicts academic achievement even when intelligence, personality, and previous academic achievement were controlled (Day, Hanson, Maltby, Proctor, & Wood, 2010; Snyder et al., 2002). In addition, hope has been found to predict higher scores on achievement tests in children (McDermott & Snyder, 2000; Snyder et al., 1997), higher grade point average in junior high, high school, and college students (Chang, 1998; Curry et al., 1997; Curry et al., 1999; Lopez et al., 2000; Snyder et al., 1991), and graduation and dropout rates in college students (Snyder et al., 2002). Overall, hope has

correlated positively with greater problem solving abilities and academic achievements (Chang, 1998; Lopez et al., 2000; McDermott & Snyder, 1999, 2000; Snyder et al., 1997).

While hope has not been a focal point of workplace research, hope is a construct studied across many other domains, such as life satisfaction, sports, healthcare, and mental health research. Life satisfaction research indicates that individuals with higher hope are generally more satisfied with life, in addition to reflecting that married individuals are more hopeful than singles and older adults with high hope have greater perceived health, well-being, and flexibility with goals (Bailey & Snyder, 2007; Cheavens & Gum, 2000; Wroblewski & Snyder, 2005). Hope has repeatedly been related to outcomes in sports, with hopeful individuals displaying better sports performance and superior outcomes (Curry et al., 1997; Snyder, 2004). In the world of healthcare, healthcare providers have described hope as an important part of their career and a form of motivation to provide the best care possible to patients (Kulig, 2001). High hope in healthcare providers also reduces burnout, as well (Simmons & Nelson, 2001). Hope also plays a role in mental health, with research being conducted regarding the introduction of hopeful thinking to cognitive psychotherapies via appropriate goal setting, problem solving techniques (pathways), and positive self-talk (agency) being promoted during therapy (Cheavens et al., 2006). In all domains studied, hopeful thinking is related to positive outcomes in the pursuit of goals and overall satisfaction.

#### Self-efficacy, Learning Goal Orientation, and Hope as a Motivational Belief System

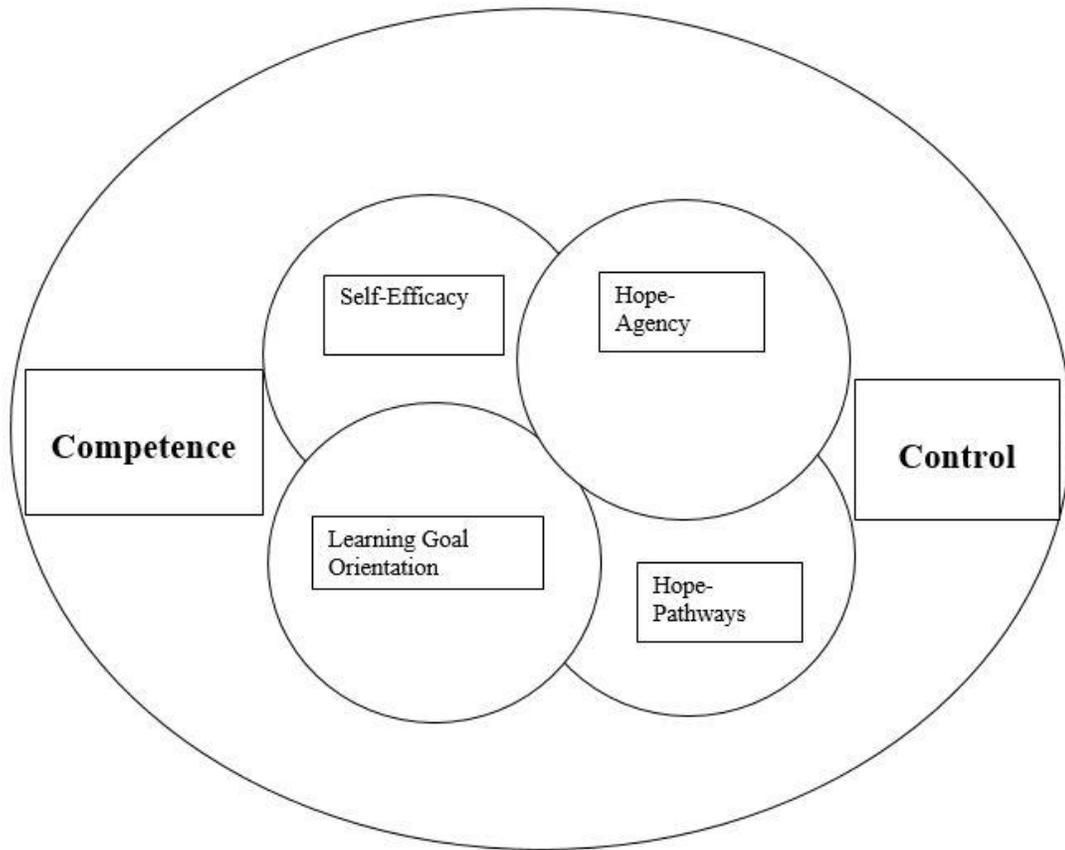
The vast majority of past research indicates that motivational constructs have a positive relationship with each other in some form. Self-efficacy and learning goal orientation are

positively intertwined (Ford et al., 1998; Martocchio & Hertenstien, 1999; Payne et al., 2007; Phillips & Gully, 1997; Potosky & Ramakrishna, 2002; Steele-Johnson et al., 2000), with individuals pursuing learning goals feeling more efficacious during active goal pursuit. In these individuals, self-efficacy is substantiated as the learner works on task and notes progress. The perception of progress towards the goal sustains motivation and furthers skill acquisition (Schunk, 1995).

Hope has been measured against various motivational constructs, including self-efficacy and learning goal orientation, and emphasizes all of these goal pursuit components (Snyder, 1994). Hope and self-efficacy are positively correlated (Magaletta & Oliver, 1999; Carifio & Rhodes, 2002), with efficacy expectancies reflecting beliefs that one can achieve goals (competence/agency) and outcome expectancies reflecting strategies for achieving goals (control/pathways) (Bandura, 1982; Schunk & Zimmerman, 2006; Sherer et al., 1982). In regards to learning goal orientation, the success of individuals pursuing learning goals should also be influenced by their level of hope. A learning goal orientation has correlated positively with agency and pathways in prior research (Roedel et al., 1994). Hope theory (Snyder et al., 1991) provides a cognitive foundation for successful goal pursuit (Feldman, 2009) that influences the ways that individuals appraise (competence) and pursue (control) their goals, and hopeful thinking allows learners to approach problems and new tasks with an attitude directed towards success, which increases the probability of goal attainment (Conti, 2000).

As demonstrated above, previous research has shown that learning goal orientation (Elliot & Dweck, 1988), self-efficacy (Bandura, 1986), and hope (Snyder et al., 1991) represent powerful components of successful goal pursuit. However, there are potential gaps within the

motivational processes of these components that need to be addressed. One gap involves the existence of an efficacy belief that one can successfully achieve a goal combined with hopeful beliefs that one will benefit from goal achievement. These beliefs, in synergy with a learning goal orientation, should provide a buffer when obstacles arise during the pursuit. A second gap relates to the hopeful belief that one has ways to successfully pursue the goal. There are various obstacles (stress, lack of time, lack of support, etc.) that often impede goal pursuit. If an individual believes that they can identify pathways to overcome these obstacles and others, along with the agency and motivation to overcome any impediment, then these hopeful beliefs should also provide a buffer during goal achievement. Considering this, there is a need to evaluate the relationship between hope (Snyder et al., 1991), self-efficacy (Bandura, 1986), and learning goal orientation (Elliot and Dweck, 1988) as a motivational belief system for goal pursuit. Figure 1 provides a visual example of how self-efficacy, learning goal orientation, and hope work together as a motivational belief system under the framework of competence and control.



*Figure 1.* Self-efficacy, Learning Goal Orientation, and Hope as a Motivational Belief System Under the Framework of Competence and Control Beliefs

### Faculty and the Adoption of New Technology

The adoption of new technology begins at an institutional level, with the institution deciding to make a change in the instructional options for faculty, such as changing to a new learning management system. The implementation process followed by the institution greatly influences the adoption of the new technology; administrative support, leadership, and commitment are key players in the successful adoption of new technologies, along with

communicating the implementation strategy to faculty and staff (Brown et al., 2007; Kezar & Eckel, 2002). Employees' perceptions that the institution supports innovation may be particularly important regarding the continuous learning and adaptation of employees (Kozlowski & Hults, 1987). Venkatesh et al. (2003) proposed that there are four key moderators that predict usage behavior during the technology adoption process: performance expectancies, effort expectancies, social influences, and facilitating conditions. Users evaluate their performance expectancies of the new technology in order to determine if usage will help them achieve gains in their job performance, whereas effort expectancies are an evaluation of the ease of use and implementation of the new technology. Potential users consider social influences to determine the degree to which it is perceived that they should use the system, in addition to contemplating facilitating conditions, such as the availability of technical support or institutional support during the adoption process (Venkatesh et al., 2003). Processes such as these influence the adoption of new technology by the faculty users.

In addition to institutional support, the attributes of the technology itself influence the adoption process. Rogers' (2003) *Diffusion of Innovations* indicates that technologies with certain attributes are more likely to be adopted by users. These attributes include compatibility with the users' needs, advantage over the previously used system, and the opportunity to try the technology in small phases. The complexity of the technology is a factor of user adoption, as well, with the ease of use, the organization and presentation of content, and the structure and flexibility of the technology influencing adoption (Davis, 1993; Beatty & Ulasewicz, 2006). The users themselves also play a central role in the adoption of new technology. Beliefs regarding the technology predict user attitude, which predicts acceptance and usage (Davis, 1993). New

users are generally uncomfortable with the change and require a standardized implementation of the technology in order to fully accept it in to their daily usage (Black et al., 2007). Technology adoption by faculty is facilitated by administrative support and resources, mass use of the new technology at the institution, and discussion of the technology with colleagues (McCann, 2010). However, the adoption of the new technology can be hindered by factors such as the users' fear of failure, difficulty using the new system, and lack of preparation time for the new system during the implementation process (D'Silva & Reeder, 2005, McCann 2010). Adoption can also be delayed by technostress, which is defined as any negative side effect on attitudes, thoughts, behavior, and psychology that results from the use of computer based systems (Tu, Wang, & Shu, 2005). Individuals experiencing technostress may find that further learning or use of technology may be inhibited (Wang, Tu, & Shu, 2008). One's cognitive limitations and the inability to adapt to changes in technology may have a negative result on technology use and productivity (Shu et al., 2011).

Regardless of the negatives that may impede technology adoption, there is one common concept in technology research that coincides with successful technology use and adoption, and that concept is self-efficacy. Many studies have shown that there is a positive relationship between self-efficacy and technology use (Adalier, 2012; Pamuk & Peker, 2009; Serin, Saracoglu, & Yavuz, 2010; Tuncer & Tanas, 2011; Yigit & Bursal, 2012). Individuals with higher levels of self-efficacy engage in technology related activities and persist longer in coping efforts during the adoption process (Durnell & Haag, 2002). Because of the relationship between self-efficacy and technology adoption, along with self-efficacy's place in the motivational belief system, one must ask: What is the relationship between hope, self-efficacy,

and learning goal orientation as a motivational belief system and faculty's beliefs regarding technology adoption, such as a learning management system?

#### Measurement Considerations of Motivational Constructs and LMS Adoption

Currently, there is no research to date that has explored the relationship between hope and technology adoption, little research that has explored the relationship of learning goal orientation and self-efficacy to technology adoption, and no research that has explored the relationship of all three constructs as a motivational belief system as a predictor of technology adoption and use. As a result, measures specific to self-efficacy, learning goal orientation, and hope in regards to technology adoption are unavailable to educational researchers. The establishment of these measures and relationships provided the educational technology community with instruments that will aid faculty trainers and support staff members in their evaluation of who will adopt and use new technology at their institution, which will allow for a smoother transition and adoption process. The need for the introduction of domain specific measures for self-efficacy, learning goal orientation, and hope in regards to technology adoption presented the opportunity to generate distinct and reliable domain specific measures as part of the study.

#### Summary

A review of the literature examined the adoption of new technologies, motivation, and goal setting, in addition to identifying how the concepts relate to one another under the framework of competence and control beliefs. However, little research has focused specifically on the

relationships between self-efficacy, learning goal orientation, and hope in faculty during the transition to a new Learning Management System, in addition to there being a lack of measures to evaluate said relationships.

## CHAPTER 3

### METHOD

The foundation for this study was based on the results of previous research involving self-efficacy, goal orientation, hope, and the adoption of new technology by users. As outlined in the review of related literature, self-efficacy, goal orientation, and hope have displayed positive relationships in educational and professional environments, and self-efficacy and goal orientation have acted as predictors of users adopting new technology successfully. The purpose of this study was to evaluate the relationship among a motivational belief system of self-efficacy, learning goal orientation, and hope, and beliefs regarding technology adoption during a state-wide community college transition to a new learning management system. It was aimed at addressing the following research questions:

1. Are the domain specific measures of technology beliefs and motivation distinct and reliable?
  - a. Are the measures within the Faculty Beliefs Regarding Technology Adoption Scale distinct and reliable?
  - b. Are domain specific measures of hope, self-efficacy, and learning goal orientation distinct and reliable?
2. What are the beliefs regarding technology adoption among faculty at community colleges across Mississippi?
3. What is the relationship among hope, self-efficacy, and learning goal orientation and beliefs regarding technology adoption?

## Setting

The Mississippi Community College Board (MCCB) represents a system of fifteen community and junior colleges in the state of Mississippi. The colleges offer quality education at an affordable cost in various subject areas, such as university transfer academics, career and technical skills, workforce education, and adult based education and GED preparation. These areas of study are available in an online and traditional format (Mississippi Community College Board, 2014). The researcher is currently employed by East Central Community College, which falls under the MCCB system. The Mississippi Virtual Community College (MSVCC) system was selected for this study because it provided convenient and in depth access to participants and data. The study was conducted with full disclosure to and support from the senior administration of the MCCB.

## Demographics

The sample consisted of faculty from the Mississippi community college system who completed training for the new learning management system, Canvas, and are currently using the system in their courses. The Mississippi community college system currently employs approximately 2,000 individuals with faculty titles. Of the 2,000 individuals who received an email invitation for the study, 292 (14.6%) elected to participate. Only the faculty members using the Canvas LMS were asked to complete the questionnaire as this research project was designed to evaluate faculty beliefs in regards to technology adoption, as well as the motivational belief system.

The participants consisted of 292 individuals who ranged in age from 25 years old to 72 years old ( $M = 46$ ,  $SD = 10.5$ ). Of these participants, 209 (72%) were female. Years teaching ranged from 1 to 45 ( $M = 16.5$ ,  $SD = 9.9$ ), and years teaching online ranged from 1 to 20 ( $M = 7.4$ ,  $SD = 4.4$ ). 200 participants identified as full time faculty members, and 94 identified as adjunct faculty for their institution of employment. Table 1 provides a representation of participation by institution surveyed. 14 of the 15 institutions had at least one respondent, with most of the respondents coming from 9 of the 15 institutions. Institutions with 2 or less respondents were excluded from data analysis in order to allow for comparisons between institutions.

Table 1

*Participants per Institution N = 292*

Institution	<i>N</i>	Percent
1	8	2.7
2	2	0.7
3	35	11.9
4	6	2.0
5	14	4.8
6	1	0.3
7	48	16.4
8	23	7.8
9	25	8.5
10	18	6.1
11	58	19.8
12	22	7.5
13	0	0.0
14	23	7.8
15	9	3.1
Overall	292	100

## Instrumentation

### **Demographic Information**

The electronic survey began with a demographics section that obtained information from the participants regarding their age, gender, how many years they have been teaching, how many years they have been teaching online courses, faculty status at their institution of employment, and the institution of their current place of employment.

### **Faculty Beliefs Regarding Technology Adoption Scale**

Faculty beliefs regarding technology adoption was examined using three constructs: Comfort with Technology, Technology Use, and Institutional Support. The constructs were developed from previous research regarding the adoption of new technology (Beatty & Ulasewicz, 2006; Brown et al., 2007; Davis, 1993; Rogers, 2003). Each item is based on a ten point Likert scale ranging from 1 = “I don’t agree with the statement at all” to 10 = “I completely agree with the statement.”

*Comfort with Technology.* The items within Comfort with Technology were based on previous research on technology diffusion (Rogers, 2003) and adoption and implementation of new technology (Brown et al., 2007). Using this previous research, two items were created to examine faculty comfort level with new technologies and the adoption process in general: “Software updates that change features do not intimidate me,” and “Adapting to and using Learning Management System related technology is easy for me.”

*Technology Use.* Technology Use included items related to the use of the new LMS, such as “I am using/want to use features of the Learning Management System in my instruction” and “I enjoy using my institution’s Learning Management System in my instruction.” These items were generated to evaluate faculty’s level of usage of the new LMS. Prior research (Davis, 1993; Beatty & Ulasewicz, 2006) indicated that the ease of use of the technology influences adoption, which served as the basis for the Technology Use items.

*Institutional Support.* The items within Institutional Support were developed based on Brown et al’s. (2007) strategies for the adoption and implementation of new technology, which focused on the importance of support beliefs regarding the transition to a new technology.

Institutional Support consisted of items reflecting the participants' self-assessed beliefs regarding their institution of employment, "The eLearning staff at my institution provided a satisfactory amount of information regarding the transition to the current Learning Management System prior to training," "The administration at my institution was fully committed to the Learning Management System during the adoption process" (See Appendix A for complete scale).

### **LMS Hope Scale**

The original Trait Hope Scale is a generic scale that consists of eight hope items with four fillers, and it is designed to assess the level of hope that an individual possesses. Of the eight hope items, four are pathways items (the plan for reaching a goal), and four are agency items (the motivation/determination for achieving the goal). The original Trait Hope Scale contains items such as "I can think of many ways to get out of a jam." and "I energetically pursue my goals." to evaluate an individual's agency and pathways components of hope. The original Trait Hope Scale was validated by correlating responses to the scale with responses to proven measures that evaluate similar concepts. Snyder's (1991) Hope Scale correlated with Scheier and Carver's (1985) Life Orientation Test (LOT), which measures optimism, in two separate trials (.60 and .50, respectively,  $p < .005$ ). The LOT was chosen as a validation measure for the Hope Scale because individuals with high hope should display high levels of optimism or positive outcome expectations. Self-esteem is also related to hope in that hopeful individuals should have more self-esteem. In a comparison to the Rosenberg Self-Esteem Scale (1965), the Hope Scale correlated positively at .58 ( $p < .005$ ) confirming that individuals with high levels of self-esteem were also high in hope. The Generalized Expectancy for Success Scale (Fibell &

Hale, 1978) was selected for validation purposes because it is designed to evaluate cross-situational expectancies for reaching goals. The GESS correlated with the Hope Scale in two trials at .55 and .54 ( $p < .005$ ), which indicates that individuals with high hope also display high expectancies of reaching goals across circumstances. During the validation process, it was hypothesized that individuals with strong control perceptions and problem solving abilities would also be high in hope. The Burger-Cooper Life Experiences Survey (1979) evaluates an individual's sense of control in life situations correlated with the hope scale at .54 ( $p < .005$ ), and the Problem Solving Inventory (Heppner & Petersen, 1982) correlated at -.62 ( $p < .005$ ). The negative correlation is due to lower scores on the PSI reflecting greater problem solving abilities. The positive correlations between Snyder's Hope Scale (1991) and the related measures support the foundations of hope theory and qualify the Hope Scale as an acceptable evaluation tool for research.

All items on the LMS Domain Specific Hope Scale were modified statements from the original Trait Hope Scale (Table 2) that reflect the participants' hope towards transitioning to a new learning management system ("I can think of many ways to resolve a problem with my course in the LMS." or "I energetically pursue learning about the features within the LMS."), and the filler items were removed to shorten the measure since the purpose of the study will be explained to the participants (See Appendix A for complete scale).

Table 2

*Hope Scale Comparison*

<b>LMS Hope Scale</b>	<b>Snyder (1991) Trait Hope Scale</b>
I can think of many ways to resolve a problem with my course in the LMS.	I can think of many ways to get out of a jam.
I energetically pursue learning about the features within the LMS.	I energetically pursue my goals.
I can easily find solutions to problems in my course.	There are lots of ways around any problem.
I can think of many ways to include elements in my courses that are important to me.	I can think of many ways to get the things in life that are important to me.
Even when others get discouraged, I know I can find a way to solve the problem within the LMS.	Even when others get discouraged, I know I can find a way to solve the problem.
My past experiences have prepared me well for adapting to new instructional technologies.	My past experiences have prepared me well for my future.
I've been pretty successful designing my courses.	I've been pretty successful in life.
I meet the goals that I set for myself when learning new instructional technologies.	I meet the goals that I set for myself.

**LMS Self-Efficacy Scale**

Self-efficacy scales are developed to estimate an individual's perceived capability in a specific domain. When developing self-efficacy scales, all-purpose items should be avoided since those items have little or no relevance to the specific domain of functioning being reviewed. The scales should be tailored in such a way that each item can be linked to factors that determine the individual's quality of functioning in the domain of interest, and the items on the

scale should be phrased to reflect a “can do” attitude instead of a “will do” perception (Bandura, 2006). Using the guidelines recommended by Bandura (2006), the LMS Domain Specific Self-Efficacy Scale was created to reflect an individual’s self-efficacy regarding their ability to use the LMS within their courses. The scale contained twelve items relating to the use of the LMS such as “I can create and modify an announcement” and “I can use course statistics to track my students’ performance” (See Appendix A for complete scale).

### **LMS Learning Goal Orientation Scale**

In his research, VandeWalle (1997) utilized a learning goal orientation scale to evaluate students’ learning goal orientation in the domain of academics. For the purpose of this study, VandeWalle’s learning goal orientation scale was modified to reflect one’s learning goal orientation in regards to adoption of the new learning management system (Table 3). The scale contained five items that represented the process of actively pursuing knowledge of the new system such as “I prefer challenging myself to use the LMS to its full capabilities in my courses so I will learn a great deal about the system” and “I like exploring options that force me to think hard and solve problems as I am designing my course.”

Table 3

*Learning Goal Orientation Scale Comparison*

<b>LMS Learning Goal Orientation Scale</b>	<b>Learning Goal Orientation Scale VanDeWalle (1997)</b>
I prefer challenging myself to use the LMS to its full capabilities in my courses so I will learn a great deal about the system.	I prefer challenging and difficult classes so that I'll learn a great deal.
I enjoy learning about LMS features for the sake of learning and improving my course design.	I truly enjoy learning for the sake of learning.
I like exploring options that force me to think hard and solve problems as I am designing my course.	I like classes that really force me to think hard.
I am willing to attend additional LMS trainings if I can learn more about the system and how to use it.	I'm willing to enroll in a difficult course if I can learn a lot by taking it.
I am excited about the opportunity to familiarize myself with new instructional technologies.	

Data Collection

The data for this study were collected using information gathered from an electronic survey completed by faculty members of the Mississippi community college system. The Mississippi community college system was currently beginning its second year using a new learning management system, Canvas by Instructure, after more than ten years using alternative

systems. Data were collected after the first wave of introductory training for the new LMS has been completed and all faculty had at least one academic year using the new system.

### Data Analysis

For research question one, the measures were tested using SPSS and LISREL. Reliability of the measures were determined using Cronbach's Alpha in SPSS. LISREL was used to run a confirmatory factor analysis to determine whether or not the items relate to each other within measures and are distinct between measures. Research question two, which evaluates the beliefs regarding technology among faculty and the differences between institutions, was addressed using SPSS to generate descriptive statistics. The means of the scale scores, along with the standard deviations, were reported in tables that reflects the statistics by scale and institution. An ANOVA was completed to evaluate the differences across the institutions and between items. Regression analysis was used to evaluate the predictive nature of the demographic variables in regards to the technology scales. The relationship among hope, self-efficacy, and goal orientation as a motivational belief system, as well as the relationship between the motivational belief system and technology beliefs and use, both of which are the focus of research question three, were evaluated using confirmatory factor analysis to generate a path model that highlighted the relationships between the constructs, which demonstrate that the constructs are correlated but unique. The final proposed model contained seven factors, the motivational belief system, represented by the observed variables of self-efficacy, goal orientation, and hope agency and pathways, and the three constructs of faculty beliefs regarding technology (Comfort with Technology, Technology Use, and Institutional Support).

## Summary

The study was based on previous research regarding self-efficacy, goal orientation, and hope, as well as research regarding faculty perceptions of new technology. The study took place within the colleges under the Mississippi Community College Board, and the participants were faculty members currently using the new learning management system, Canvas by Instructure. Data were collected via electronic survey, which was accessible to all voluntary participants by email. Data were analyzed using SPSS and LISREL to evaluate the research questions. Results are reported in Chapter 4 and discussed in Chapter 5.

## CHAPTER 4

### RESULTS

The purpose of this study was to evaluate the relationship among a motivational belief system of self-efficacy, learning goal orientation, and hope, and beliefs regarding technology adoption during a state-wide community college transition to a new learning management system. It is aimed at addressing the following research questions:

1. Are the domain specific measures of technology beliefs and motivation distinct and reliable?
  - a. Are the measures within the Faculty Beliefs Regarding Technology Adoption Scale distinct and reliable?
  - b. Are domain specific measures of hope, self-efficacy, and learning goal orientation distinct and reliable?
2. What are the beliefs regarding technology adoption among faculty at community colleges across Mississippi?
3. What is the relationship among hope, self-efficacy, and learning goal orientation and beliefs regarding technology adoption?

The foundation for this study was based on the results of previous research involving self-efficacy, goal orientation, hope, and the adoption of new technology by users. As outlined in the review of related literature, self-efficacy, goal orientation, and hope have displayed positive relationships in educational and professional environments, and self-efficacy and goal orientation have acted as predictors of users adopting new technology successfully. This chapter

reports the results of a comprehensive survey focusing on beliefs regarding technology adoption in community college faculty, as well as self-efficacy, learning goal orientation, and hope as motivational components in regards to technology adoption. Data were analyzed using descriptive statistics, correlations, Cronbach's Alpha coefficient of reliability, regression, analysis of variance, confirmatory factor analysis, and path analysis.

### Research Process

The data for this study were collected using information gathered from an electronic survey completed by faculty members of the Mississippi Virtual Community College (MSVCC) system. The MSVCC is currently beginning its third year using a new Learning Management System (LMS), *Canvas* by Instructure, after more than ten years using alternative systems. Data were collected after the first wave of introductory training for the new LMS had been completed and all faculty had at least one academic year using the new system. Participants were recruited via email invitation, and participation was voluntary.

### Research Question 1

Are the domain specific measures of technology beliefs and motivation distinct and reliable?

- a. Are the measures within the Faculty Beliefs Regarding Technology Adoption Scale distinct and reliable?
- b. Are domain specific measures of hope, self-efficacy, and learning goal orientation distinct and reliable?

## **Descriptive Statistics and Reliability Analysis of Measures**

Reliability of the measures was established using Cronbach's Alpha, and confirmatory factor analysis was used to verify that the items loaded to form the respective measures. Table 4, presented below, includes the maximum scores, means, standard deviations, range of actual scores, and alpha reliability coefficients. The measures were all reliable, with alphas ranging from .821 to .921. The measures are new, so there are no baseline comparisons for the descriptive statistics. The Faculty Beliefs Regarding Technology Adoption Scale scores have high means. An examination of the standard deviations indicates that 95% percent of faculty have positive beliefs regarding Comfort with Technology, Technology Use, and Institutional Support. Although the means are high, there is a good range of scores. Although the LMS domain specific motivation measures are new as well, comparisons to the original scales (Bandura, 2006, Snyder et al., 1991, VanDeWalle, 1997), reveal that the scores are slightly higher but within an acceptable range of previously reported scores.

Table 4

*Descriptive Statistics and Reliability Coefficients for Technology Beliefs Regarding Adoption Scale Scores and Motivational Scales Scores (N =293)*

Scale	Maximum Score	M	SD	Range [Min, Max]	$\alpha$
Comfort with Technology	20	17.1	3.1	[6,20]	.833
Technology Use	40	36.1	5.8	[4,40]	.917
Institutional Support	40	36.0	5.8	[4,40]	.885
Learning Goal	50	41.5	8.6	[7,50]	.921
Self-Efficacy	120	112.5	11.1	[60,120]	.821
Hope Agency	32	28.3	3.7	[6,32]	.822
Hope Pathways	32	27.2	4.5	[4,32]	.909

### **Faculty Beliefs Regarding Technology Adoption Scale Items Confirmatory Factor Analysis**

Using the correlation matrix found in Table 5, a confirmatory factor analysis was completed using the ten items of the Faculty Beliefs Regarding Technology Adoption Scale. Once the original model was estimated, iterative modifications to the original model were made to improve model fit. All modifications to the observed items were between observed items within latent constructs, as error variance was allowed to covary between observed items within latent constructs. All modifications to the latent variables involved allowing the latent variables to covary. No modifications were made to the paths between the latent variables and the observed items. The final model is presented in Figure 2. The overall model fit was marginal ( $X^2$

= 66,  $df = 27$ ,  $p < .05$ ,  $GFI = .959$ ,  $RMSEA = .070$ ). All items had primary loadings over .6.

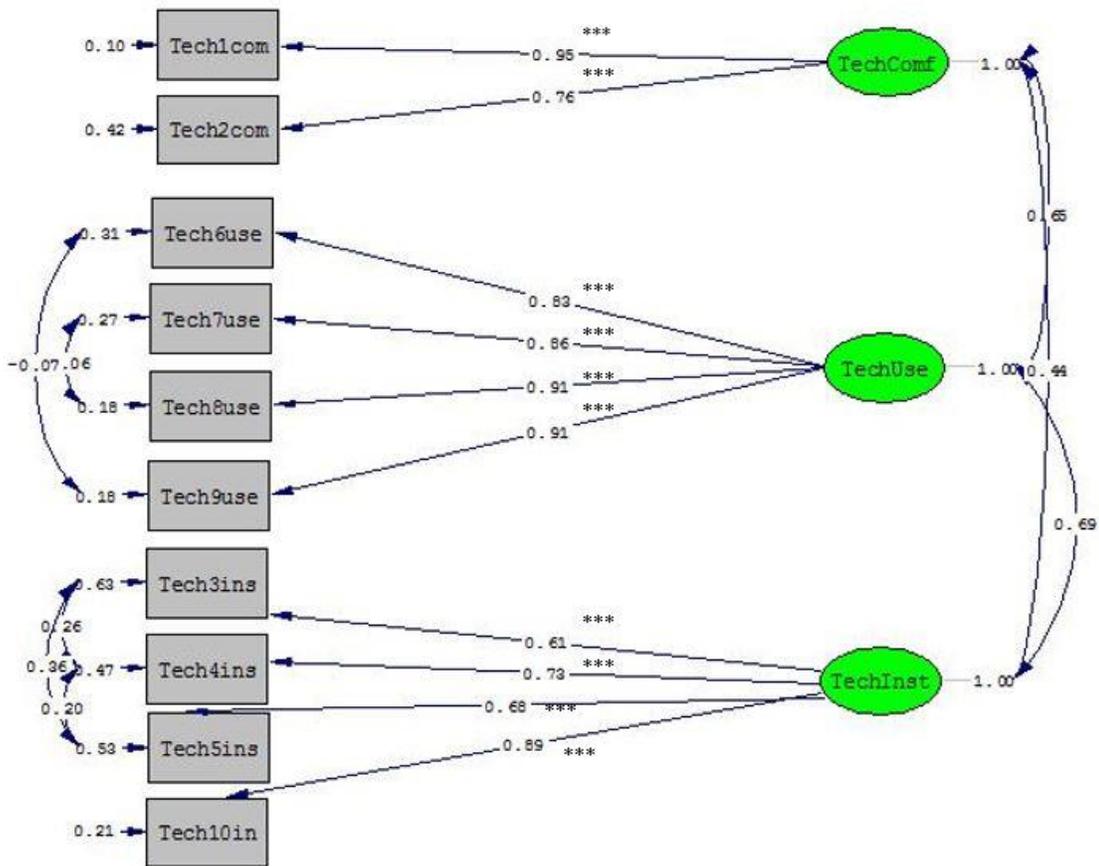
Three items, Tech1Comfort, Tech8Use, and Tech9Use, loaded on their appropriate latent variable at .91 or better, and contributed more to the model. Overall, all observed items loaded on the appropriate latent variable, and all paths between the observed items and latent variables were significant.

Table 5

*Correlation Matrix for Faculty Beliefs Regarding Technology Adoption Scale Items (N =293)*

Item	1	2	3	4	5	6	7	8	9	10
1.Tech1Comf	1.000									
2.Tech2Comf	0.723	1.000								
3.Tech3Inst	0.321	0.199	1.000							
4.Tech4Inst	0.323	0.203	0.709	1.000						
5.Tech5Inst	0.260	0.165	0.779	0.700	1.000					
6.Tech6Use	0.494	0.434	0.365	0.448	0.417	1.000				
7.Tech7Use	0.509	0.375	0.454	0.509	0.461	0.698	1.000			
8.Tech8Use	0.574	0.485	0.348	0.413	0.376	0.768	0.715	1.000		
9.Tech9Use	0.551	0.431	0.370	0.454	0.371	0.688	0.773	0.823	1.000	
10.Tech10Inst	0.379	0.291	0.539	0.642	0.611	0.484	0.613	0.473	0.582	1.00

*Note:* All correlations are significant ( $p < .01$ ).



Chi-Square=66.00, df=27, P-value=0.00004, RMSEA=0.070

Figure 2. Confirmatory Factor Model for Faculty Beliefs Regarding Technology Adoption Items. Significant Paths are denoted as follows \*  $p < .05$ , \*\*  $p < .01$ , \*\*\*  $p < .001$ .

### Learning Goal Orientation Scale Items Confirmatory Factor Analysis

Using the correlation matrix found in Table 6, a confirmatory factor analysis was completed using the five items of the Learning Goal Orientation Scale. Once the original model was estimated, iterative modifications to the original model were made to improve model fit. All modifications to the observed items were between observed items within the latent construct, as error variance was allowed to covary between observed items. No modifications were made to

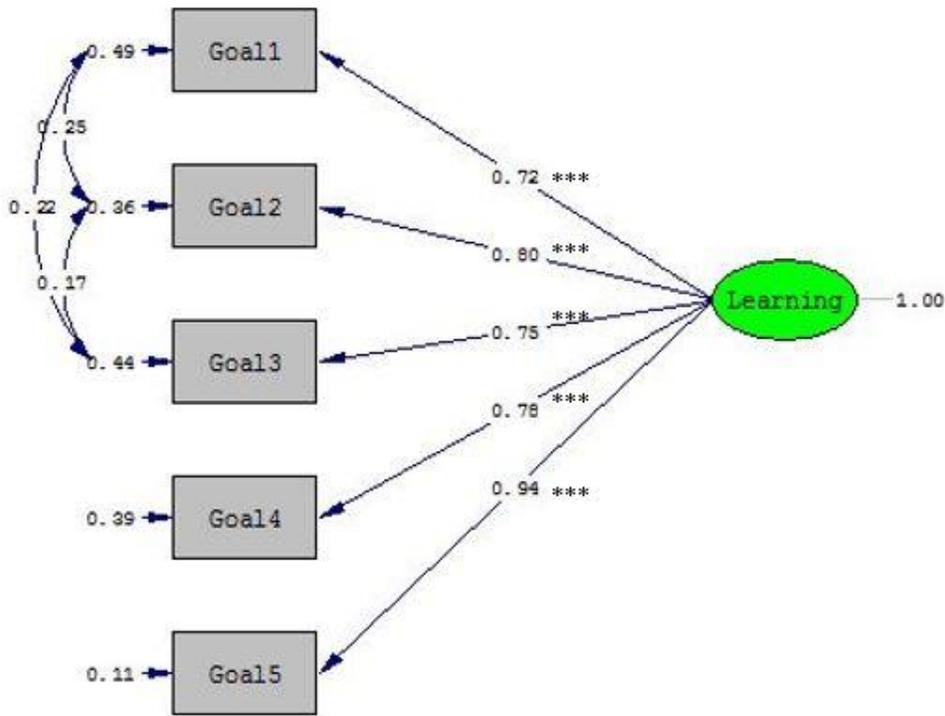
the paths between the latent variable and the observed items. The final model is presented in Figure 3. The overall model fit was acceptable ( $X^2 = .06$ ,  $df = 2$ ,  $p > .05$ ,  $GFI = 1.00$ ,  $RMSEA = .000$ ). All items had primary loadings over .7. Two items, Goal2 and Goal5, loaded on the latent variable at .8 and .94, respectively, and contributed more to the model. All observed items loaded on the latent variable, and all paths between the observed items and latent variable were significant.

Table 6

*Correlation Matrix for Learning Goal Orientation Scale Items (N =293)*

Item	1	2	3	4	5
1.Goal1	1.000				
2.Goal2	0.825	1.000			
3.Goal3	0.759	0.771	1.000		
4.Goal4	0.561	0.626	0.592	1.000	
5.Goal5	0.675	0.757	0.708	0.740	1.000

*Note:* All correlations are significant ( $p < .01$ ).



Chi-Square=0.06, df=2, P-value=0.96853, RMSEA=0.000

Figure 3. Confirmatory Factor Model for Learning Goal Orientation Scale Items. Significant Paths are denoted as follows \*  $p < .05$ , \*\*  $p < .01$ , \*\*\*  $p < .001$ .

### Self-Efficacy Scale Items Confirmatory Factor Analysis

Using the correlation matrix found in Table 7, a confirmatory factor analysis was completed using the twelve items of the Self-Efficacy Scale. Once the original model was estimated, iterative modifications to the original model were made to improve model fit. All

modifications to the observed items were between observed items within the latent construct, as error variance was allowed to covary between observed items. No modifications were made to the paths between the latent variable and the observed items. The final model is presented in Figure 4. The overall model fit was marginal ( $X^2 = 101.9$ ,  $df = 42$ ,  $p < .05$ ,  $GFI = .949$ ,  $RMSEA = .070$ ). All items had primary loadings over .3. SE7 loaded at .78 and contributed most to the model. However, all observed items loaded on the latent variable, and all paths between the observed items and latent variable were significant.

Table 7

*Correlation Matrix for Self-Efficacy Scale Items (N = 293)*

Item	1	2	3	4	5	6	7	8	9	10	11	12
1.SE1	1.000											
2.SE2	0.347	1.000										
3.SE3	0.191	0.542	1.000									
4.SE4	0.484	0.614	0.427	1.000								
5.SE5	0.122	0.327	0.328	0.254	1.000							
6.SE6	0.421	0.321	0.302	0.567	0.18	1.000						
7.SE7	0.212	0.456	0.543	0.427	0.333	0.411	1.000					
8.SE8	0.247	0.277	0.414	0.415	0.308	0.333	0.477	1.000				
9.SE9	0.17	0.156	0.278	0.23	0.177	0.337	0.411	0.299	1.000			
10.SE10	0.262	0.222	0.247	0.26	0.233	0.308	0.433	0.277	0.456	1.000		
11.SE11	0.258	0.262	0.343	0.397	0.257	0.33	0.373	0.621	0.433	0.397	1.000	
12.SE12	0.264	0.209	0.325	0.154	0.268	0.153	0.203	0.342	0.154	0.216	0.435	1.000

*Note:* All correlations are significant ( $p < .01$ ).

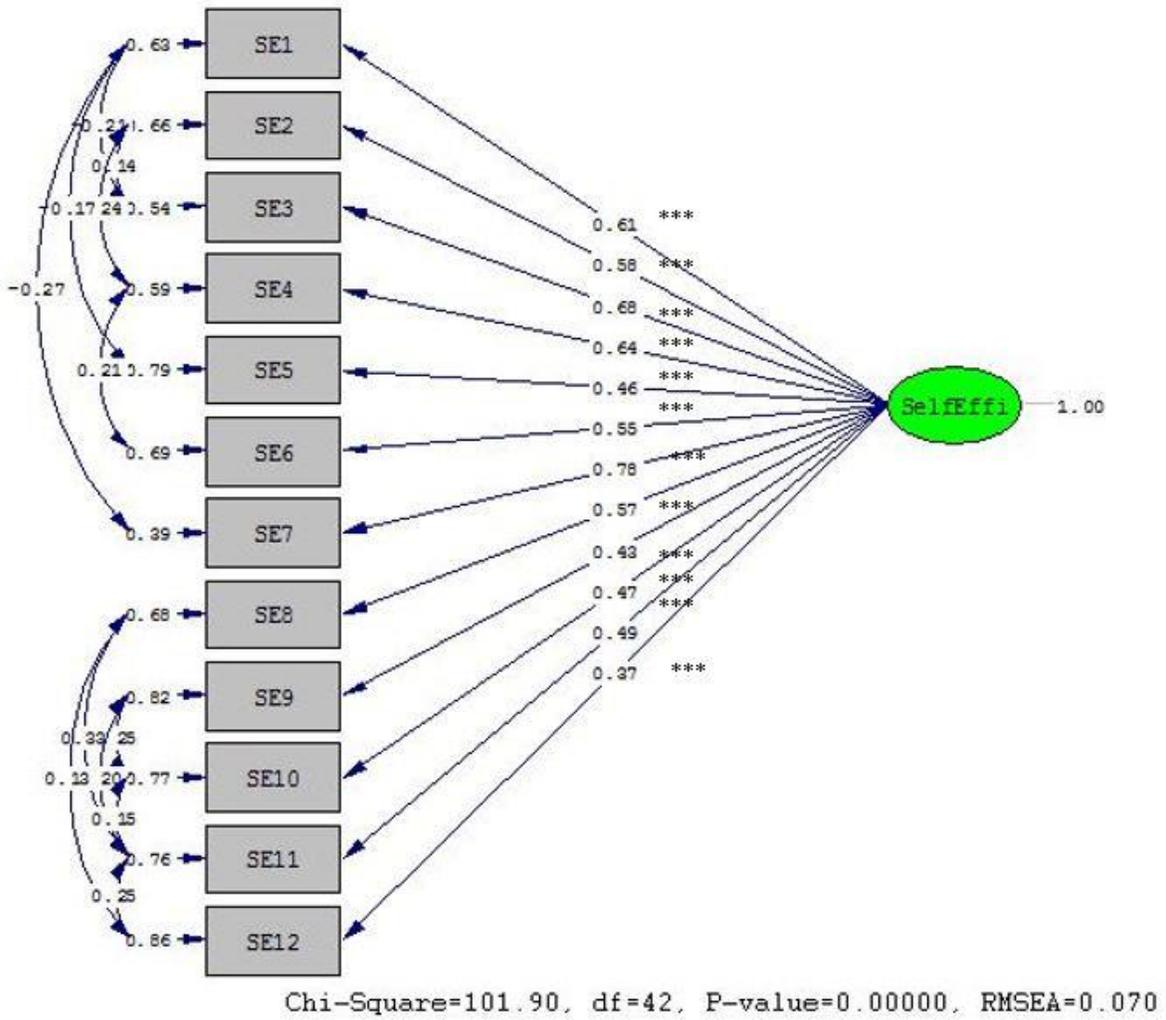


Figure 4. Confirmatory Factor Model for Self-Efficacy Scale Items. Significant Paths are denoted as follows \*  $p < .05$ , \*\*  $p < .01$ , \*\*\*  $p < .001$ .

### **Hope Scale Items Confirmatory Factor Analysis**

Using the correlation matrix found in Table 8, a confirmatory factor analysis was completed using the eight items of the Hope Scale. Once the original model was estimated, iterative modifications to the original model were made to improve model fit. All modifications to the observed items were between observed items within latent constructs, as error variance was allowed to covary between observed items within latent constructs. All modifications to the latent variables involved allowing the latent variables to covary. No modifications were made to the paths between the latent variables and the observed items. The final model is presented in Figure 5. The overall model fit was acceptable ( $X^2 = 31.62$ ,  $df = 16$ ,  $p < .05$ ,  $GFI = .975$ ,  $RMSEA = .058$ ). All items had primary loadings over .7. Hope5p loaded on the appropriate latent variable at .91, and contributed more to the model. Hope6a, Hope1p, Hope3p, and Hope5p loaded at .8 or better, and also contributed to the model. However, all observed items loaded on the appropriate latent variable, and all paths between the observed items and latent variables were significant.

Table 8

*Correlation Matrix for Hope Scale Items (N =293)*

Item	1	2	3	4	5	6	7	8
1.Hope1p	1.000							
2.Hope2a	0.570	1.000						
3.Hope3p	0.715	0.523	1.000					
4.Hope4p	0.658	0.602	0.668	1.000				
5.Hope5p	0.747	0.630	0.783	0.734	1.000			
6.Hope6a	0.586	0.607	0.605	0.633	0.696	1.000		
7.Hope7a	0.510	0.333	0.576	0.527	0.566	0.600	1.000	
8.Hope8a	0.532	0.422	0.625	0.531	0.599	0.666	0.752	1.000

*Note:* All correlations are significant ( $p < .01$ ).

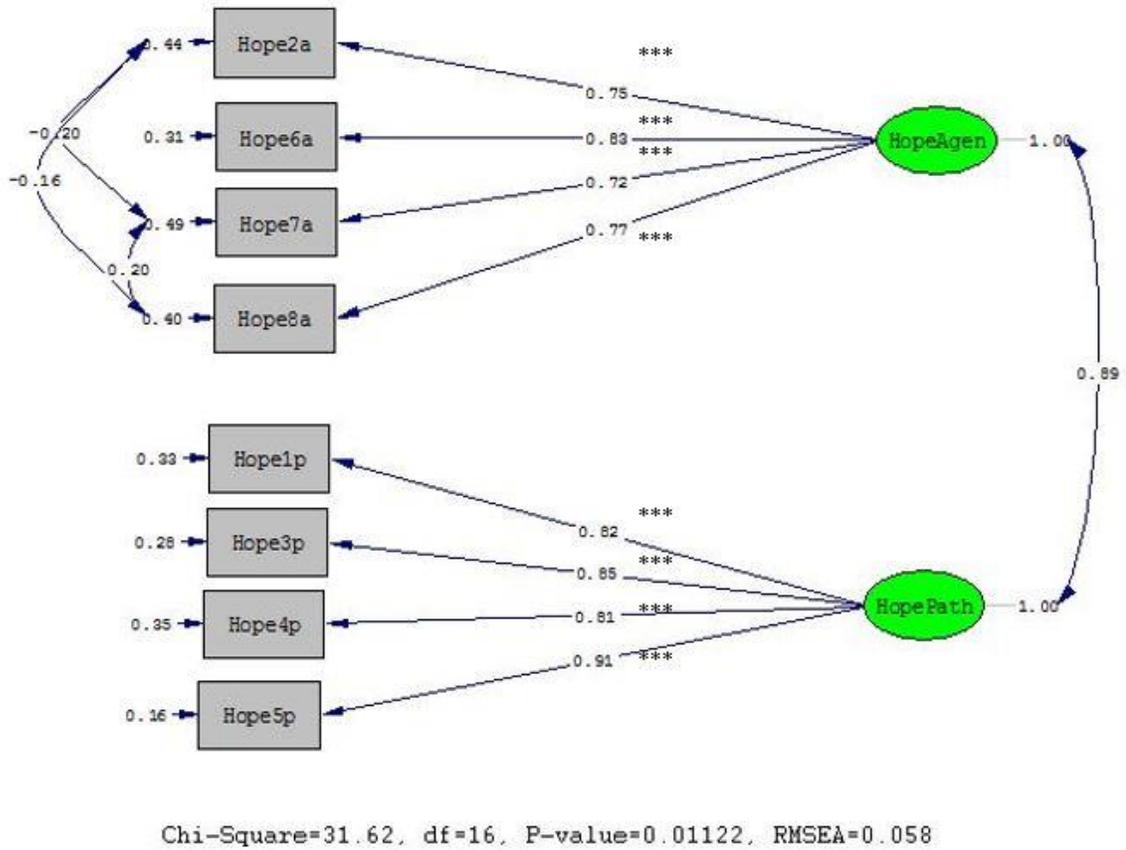


Figure 5. Confirmatory Factor Model for Hope Scale Items. Significant Paths are denoted as follows \*  $p < .05$ , \*\*  $p < .01$ , \*\*\*  $p < .001$ .

## **Summary of Research Question 1 Results**

Overall, the results of the reliability analysis using Cronbach's Alpha indicated that the measures were reliable. A confirmatory factor analysis of the scales indicated that the items load on their corresponding factor variable with error variances allowed to covary, and the corresponding models were of marginal or acceptable fit.

## **Research Question 2**

What are the beliefs regarding technology among faculty at community colleges across Mississippi?

This research question was addressed using participant responses on the Faculty Beliefs Regarding Technology Adoption Scale. The items in this component attempted to establish an understanding of faculty beliefs regarding Comfort with Technology, Technology Use, and Institutional Support during the adoption of new technology, specifically a Learning Management System.

Overall, participants reported a high level of beliefs about Comfort with Technology, Technology Use, and Institutional Support. As is evident in Table 9, participants had a mean score of 17.1 on the Comfort with Technology Scale, with the maximum being 20. Similar results are present with the scales of Technology Use with a mean score of 36.1 (maximum score of 40), and Institutional Support with a mean score of 36.0 (maximum score of 40). These results indicated that faculty members, in general, have highly positive beliefs towards new technology in the adoption of a new Learning Management System.

To further understand faculty members' beliefs about technology adoption, descriptive statistics were computed for each of the scale items. The means of the items, as a whole, point towards a positive attitude among faculty beliefs in regards to technology (Table 9). All items are greater than 8.0 (out of a 10 point scale), and five of the ten items are 9.0 or greater.

Table 9

*Descriptive Statistics for Faculty Beliefs Regarding Technology Scales (N = 288)*

Construct and Individual Items	<i>M</i>	<i>SD</i>
<b>Comfort with Technology</b>	<b>17.1</b>	<b>3.1</b>
Adapting to and using Learning Management System related technology is easy for me [Tech1Comfort].	8.8	1.4
Software updates that change features within the Learning Management System do not intimidate me [Tech2Comfort].	8.4	1.8
<b>Technology Use</b>	<b>36.1</b>	<b>5.8</b>
I have a faculty goal of using the Learning Management System as much as possible to improve my instruction and help my students [Tech6Use].	9.0	1.5
I think that the Learning Management System can be used to provide high quality instruction [Tech7Use].	9.0	1.5
I am using/want to use features of the Learning Management System in my instruction [Tech8Use].	9.1	1.4
I enjoy using my institution's Learning Management System in my instruction [Tech9Use].	8.8	1.8
<b>Institutional Support</b>	<b>36.0</b>	<b>5.8</b>
The eLearning staff at my institution provided a satisfactory amount of information regarding the transition to the current Learning Management System prior to training [Tech3InstSup]	8.7	1.8

The administration at my institution was fully committed to the Learning Management System during the adoption process [Tech4InstSup].	8.9	1.7
The eLearning staff at my institution is very knowledgeable about the Learning Management System [Tech5InstSup].	9.1	1.5
My institution's Learning Management System meets elearning needs [Tech10InstSup].	9.0	1.5

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### **Gender Differences between Comfort with Technology, Technology Use, and Institutional Support**

To address differences in faculty beliefs regarding technology adoption between genders, descriptive statistics were computed for Comfort with Technology, Technology Use, and Institutional Support (Table 10). An ANOVA was completed to determine if there were significant differences among the constructs. Results from the ANOVA indicated that there was a significant difference between the means for males and females for Technology Use [ $F(1,286) = 4.189, p = .042, \eta_p^2 = .014$ ], with females indicating higher usage than males. There were no significant differences between gender and Comfort with Technology or Institutional Support.

Table 10

*Descriptive Statistics for Gender Differences between Comfort with Technology, Technology Use, and Institutional Support (N = 288)*

Construct	Male		Female	
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>
Comfort with Technology	16.6	3.3	17.2	2.9
Technology Use*	35.0	6.1	36.6	5.6
Institutional Support	35.2	5.9	36.4	5.5

\*Indicates  $p < .05$  significance

### **Faculty Status Differences between Comfort with Technology, Technology Use, and Institutional Support**

To address differences in faculty beliefs regarding technology adoption for faculty status, descriptive statistics were computed for Comfort with Technology, Technology Use, and Institutional Support (Table 11). An ANOVA was utilized to determine if there were significant differences among the technology constructs. The ANOVA indicated that there was significant difference between the means for full time faculty and adjunct faculty for Comfort with Technology [ $F(1,285) = 4.413, p = .037, \eta_p^2 = .015$ ], with adjunct faculty indicating they are more comfortable with technology than full time faculty. There were also significant differences between the means for full time and adjunct faculty for Institutional Support [ $F(1,281) = 4.822, p$

= .029,  $\eta_p^2 = .017$ ], with adjuncts feeling more supported by their institution than full time faculty. There was no significant difference between faculty status and Technology Use.

Table 11

*Descriptive Statistics for Faculty Status Differences between Comfort with Technology, Technology Use, and Institutional Support (N = 288)*

Construct	Full Time Faculty		Adjunct Faculty	
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>
Comfort with Technology*	16.8	3.2	17.6	2.7
Technology Use	35.8	6.0	36.9	5.2
Institutional Support*	35.5	6.1	37.1	4.4

\*Indicates  $p < .05$  significance

### **Differences among Age, Years Teaching, Years Teaching Online, and Comfort with Technology, Technology Use, and Institutional Support**

Multiple regression analyses were used to test if an individual's beliefs about Comfort with Technology, Technology Use, or Institutional Support were significantly related to their age, years teaching, and years teaching online (Table 12). Technology beliefs were statistically significantly related to age [ $R^2 = .068$ ,  $F(3,281) = 6.798$ ,  $p < .001$ ]. Specifically, age was significantly negatively related to Comfort with Technology [ $t(281) = -3.836$ ,  $p < .001$ ]. The older the faculty member, the less comfort the faculty member reported with technology.

Technology beliefs were statistically significantly related to years teaching [ $R^2 = .052$ ,  $F(3,277) = 5.082$ ,  $p = .002$ ]. Specifically, years teaching was significantly negatively related to Comfort with Technology [ $t(281) = -3.069$ ,  $p < .05$ ]. The longer the faculty member had taught, the less comfort the faculty member reported with technology.

Technology beliefs were statistically significantly related to years teaching online [ $R^2 = .024$ ,  $F(3,279) = 2.326$ ,  $p = .016$ ]. Specifically, years teaching online was significantly negatively related to Institutional Support [ $t(281) = -2.420$ ,  $p < .05$ ]. The longer the faculty member had taught online, the less institutional support they reported.

Table 12

*Regression Statistics Technology Belief Measures Regressed on Age, Years Teaching, and Years Teaching Online (N = 288)*

Construct	Age $\beta$	Years Teaching $\beta$	Years Teaching Online $\beta$
Comfort with Technology	-.269**	-.219*	-.061
Technology Use	.024	-.006	-.097
Institutional Support	-.012	-.016	-.174*
$R^2$	.068	.052	.024

*Note:* \* Indicates  $p < .05$  significance, \*\* Indicates  $p < .001$  significance

## **Institutional Differences among Comfort with Technology, Technology Use, and Institutional Support**

To address differences in faculty beliefs regarding technology among the different institutions, descriptive statistics were computed for each institution regarding Comfort with Technology, Technology Use, and Institutional Support (Table 13). Consistent with the overall findings (Table 9), institutional scores were generally quite high. Although the scores were high, ANOVA indicated a significant difference of Institutional Support scores among institutions [ $F(11,272) = 2.084, p = .022, \eta_p^2 = .079$ ]. However, post hoc analysis using the Bonferroni correction did not indicate a significant difference between the means. The ANOVA with Comfort with Technology and Technology Use between institutions were not statistically significant.

Table 13

*Descriptive Statistics for Comfort with Technology, Technology Use, and Institutional Support by each Institution (N = 288)*

Institution	N	Comfort with Technology		Technology Use		Institutional Support*	
		M	SD	M	SD	M	SD
1	8	18.1	1.8	38.3	2.5	36.8	3.0
3	35	17.6	2.5	37.7	3.9	37.4	5.3
4	6	16.5	4.1	38.2	8.0	30.5	8.5
5	13	18.8	1.7	37.7	2.6	38.6	2.8
7	48	16.6	3.9	35.8	3.8	36.9	4.5
8	23	17.3	3.4	34.5	4.1	37.4	3.9
9	25	15.8	3.2	32.8	5.5	33.1	7.2
10	18	17.2	2.7	37.5	3.4	37.1	5.4
11	58	16.7	3.3	36.1	5.5	34.9	7.2
12	22	17.3	1.9	36.6	4.2	35.9	4.8
14	23	17.5	2.5	35.7	4.7	35.3	5.5
15	9	18.0	2.8	36.8	5.2	35.7	5.5
Overall	288	17.1	3.1	36.1	5.8	36.0	5.8

\*Indicates  $p < .05$  significance

### **Institutional Differences Among Institutional Support Items**

Since the post hoc analysis of Institutional Support was not significant, descriptive statistics were computed for each of the institutional support survey items for each institution to determine if differences between institutions lies within the items. An analysis of variance showed that two survey items, “The eLearning staff at my institution provided a satisfactory amount of information regarding the transition to the current Learning Management System” (Tech3InstSup), [ $F(11,274) = 1.852, p = .046, \eta_p^2 = .073$ ], and “The eLearning staff at my institution is very knowledgeable about the Learning Management System” (Tech5InstSup), [ $F(11,277) = 2.143, p = .001, \eta_p^2 = .112$ ], had significant differences. Post hoc analyses using the Bonferroni correction indicated a mean difference for effects in regards to “The eLearning staff at my institution is very knowledgeable about the Learning Management System” (Tech5InstSup) between Institutions 3 and 9 ( $M_{diff} = -1.686, SE = .399, P = .002$ ), Institutions 7 and 9 ( $M_{diff} = -1.521, SE = .376, P = .004$ ), and Institutions 8 and 9 ( $M_{diff} = -1.696, SE = .440, P = .010$ ). The results suggest that the faculty of Institution 9 may not be as satisfied with the support provided by the local eLearning department.

Table 14

*Descriptive Statistics Institutional Support Items by each Institution (N = 288)*

Institution	N	Tech3InstSup		Tech4InstSup		Tech5InstSup		Tech10InstSup	
		<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>
1	8	8.7	1.2	9.2	0.8	9.2	0.8	9.5	0.7
3	35	9.1	1.6	9.2	1.6	9.6	0.9	9.4	1.4
4	6	6.6	3.0	7.6	1.9	7.6	3.3	8.5	1.5
5	13	9.5	0.9	9.0	2.1	9.5	1.0	9.6	0.8
7	48	9.0	1.7	9.3	1.3	9.5	1.0	9.0	1.3
8	23	9.1	1.9	8.8	1.9	9.7	0.8	9.1	1.6
9	25	8.3	2.0	8.3	2.1	8.0	2.1	8.4	1.9
10	18	9.1	1.2	9.2	1.4	9.5	1.0	9.1	2.1
11	58	8.6	1.9	8.6	2.0	8.9	1.9	8.6	2.0
12	22	8.5	1.9	8.8	1.4	9.1	1.1	9.4	0.9
14	23	8.6	1.6	8.7	1.7	8.9	1.6	9.0	1.0
15	9	7.5	2.9	9.8	0.3	8.5	2.4	9.7	0.4
Overall	288	8.7	1.8	8.9	1.7	9.1	1.5	9.0	1.5

## **Summary of Research Question 2 Results**

Overall, participants reported a high level of beliefs about Comfort with Technology, Technology Use, and Institutional Support. The means of the individual scale items, as a whole, pointed towards a positive attitude among faculty beliefs in regards to technology. An ANOVA indicated significant difference between the means for the use of technology in regards to gender, with females indicating a higher usage rate than males. ANOVA also indicated a significant difference in the means regarding faculty status, with adjunct faculty reporting stronger beliefs regarding comfort with technology and institutional support. A regression analysis indicated age and years teaching share a negative relationship with comfort with technology, with individuals' comfort with technology decreasing as they age, which in turn similarly impacts comfort with technology for those with longer teaching careers. The same trend presented itself with years teaching online and beliefs regarding institutional support; as one teaches online, their feelings of support from their institution decrease over time. An ANOVA between institutions in regards to comfort with technology, technology use, and institutional support indicated a significant difference between institutions in regards to institutional support.

## **Research Question 3**

What is the relationship among hope, self-efficacy, and learning goal orientation and beliefs regarding technology adoption?

This research question was addressed by the LMS Self-Efficacy, LMS Learning Goal Orientation, and LMS Hope Scales, as well as the Faculty Beliefs Regarding Technology Scale.

Combining these items allowed for the motivational belief system to be evaluated in regards to its relationship to technology adoption.

### **Motivational Belief System and Technology Beliefs Path Model**

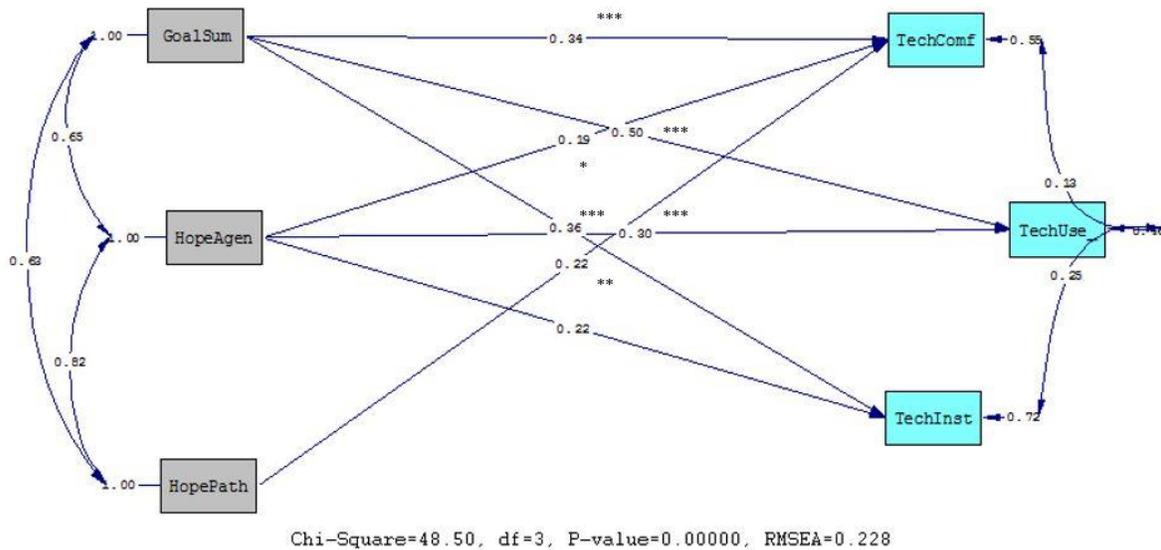
A path model was generated using Learning Goal Orientation, Self-Efficacy, Hope Agency, and Hope Pathways, along with Comfort with Technology, Technology Use, and Institutional Support to propose a working model for the motivational belief system, and its influence on faculty beliefs regarding technology adoption. The correlation matrix in Table 14 was used to generate the model. The correlations, ranging from a .246 to .683, were significant, as expected. Once the original model was estimated, iterative modifications to the original model were made to improve model fit. All modifications to the latent variables involved allowing the latent variables to covary. The paths between Self-Efficacy and Comfort with Technology, Technology Use, and Institutional Support were not significant and were removed from the model. The paths between Hope Pathways and Technology Use and Institutional Support were also removed due to lack of significance. The final model is presented in Figure 6. The proposed overall model fit was poor ( $X^2 = 48.5$ ,  $df = 3$ ,  $p < .001$ ,  $GFI = .952$ ,  $RMSEA = .228$ ).

Table 15

*Inter Item Correlations Between Technology Beliefs and Motivation Variables (N = 293)*

Item	1	2	3	4	5	6	7
1.TechComf	1.000						
2.TechUse	0.685	1.000					
3.TechInsti	0.596	0.684	1.000				
4.GoalSum	0.602	0.683	0.505	1.000			
5.SESum	0.434	0.429	0.246	0.432	1.000		
6.HopeAgency	0.590	0.616	0.454	0.650	0.562	1.000	
7.HopePathways	0.589	0.563	0.452	0.630	0.597	0.816	1.000

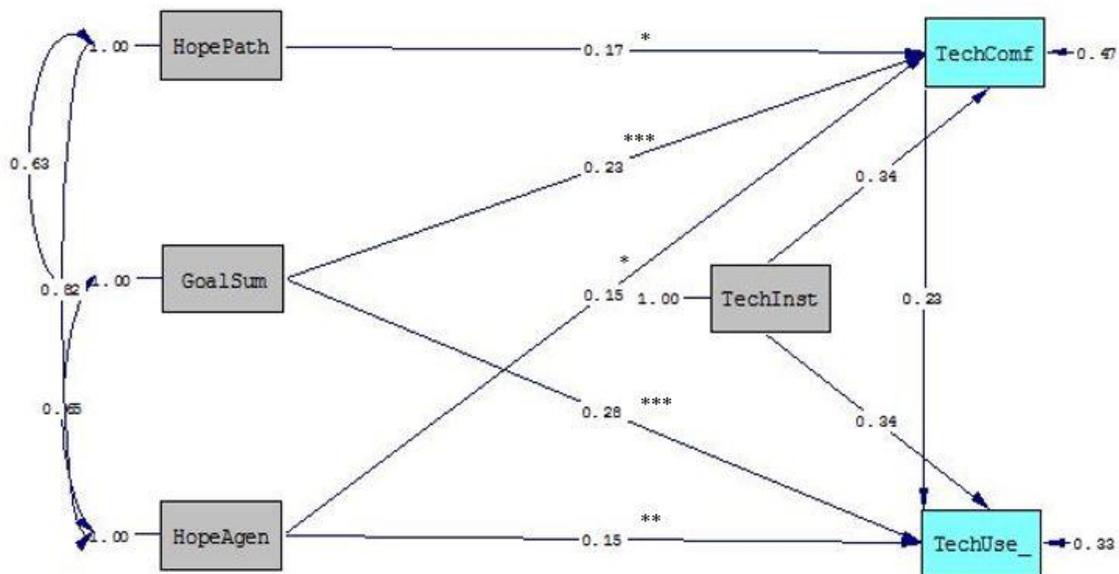
*Note:* All correlations are significant ( $p < .01$ ).



*Figure 6.* Exploratory Path Model 1 for the Motivational Belief System and Technology Beliefs. Significant Paths are denoted as follows \*  $p < .05$ , \*\*  $p < .01$ , \*\*\*  $p < .001$ .

As evident, the original exploratory path model was not significant. Therefore, additional models were explored to identify a better fit that was still conceptually informed. First, it was proposed that the motivation variables indirectly affected technology use through comfort with technology, and then comfort with technology and institutional support directly affecting technology use. However, this model was also poor fitting ( $X^2 = 54.34$ ,  $df = 2$ ,  $p < .001$ ,  $GFI = .937$ ,  $RMSEA = .299$ ).

A second model was proposed where motivation variables indirectly affected technology use through comfort with technology and directly affected technology use. This produced a good fitting model ( $X^2 = 1.13$ ,  $df = 4$ ,  $p > .05$ ,  $GFI = .999$ ,  $RMSEA = .000$ ). See Figure 7. Within this model, all paths are significant. Comfort with technology and institutional support are both significantly related to technology use. The motivation variables of mastery goal orientation, hope agency, and hope pathways are significantly related to comfort with technology, which has an indirect effect on technology use, and mastery goal orientation and hope agency also directly affect technology use. The motivation variables do not affect institutional support, and self-efficacy is not present in the model as it is not significant and reduced model fit.



Chi-Square=1.13, df=4, P-value=0.88942, RMSEA=0.000

Figure 7. Exploratory Path Model 2 for the Motivational Belief System and Technology Beliefs. Significant Paths are denoted as follows \*  $p < .05$ , \*\*  $p < .01$ , \*\*\*  $p < .001$ .

### Summary of Research Question 3 Results

While self-efficacy is notably missing from the model, the individual constructs, taken by themselves, correlate positively and are related to the scale items. Taken as a system, learning goal orientation and hope agency are significantly related to comfort with technology and technology use. Hope pathways is related to comfort with technology, which indicates that the faculty members feel they have multiple options to accomplish tasks with the technology. The implications for this system will be discussed in Chapter 5.

## Chapter Four Summary

This chapter presented the findings of the survey administered to 2,000 faculty members of the Mississippi Virtual Community College System who are currently using the Canvas LMS in their online instruction. In total, 292 individuals participated in the study. The data from the survey was used to answer three research questions that have guided this study. The survey was divided into four scales including Faculty Beliefs Regarding Technology, Hope, Learning Goal Orientation, and Self-Efficacy. In this section, the results of descriptive statistics, analysis of variance, Cronbach's Alpha, and confirmatory factor analysis were presented. The following chapter presents a discussion of the findings and implications of the research.

## CHAPTER FIVE

### DISCUSSION AND CONCLUSION

The purpose of this study was to evaluate the relationship among a motivational belief system of self-efficacy, learning goal orientation, and hope, and beliefs regarding technology adoption during a state-wide community college transition to a new learning management system. It is aimed at addressing the following research questions:

1. Are the domain specific measures of technology beliefs and motivation distinct and reliable?
  - a. Are the measures within the Faculty Beliefs Regarding Technology Adoption Scale distinct and reliable?
  - b. Are domain specific measures of hope, self-efficacy, and learning goal orientation distinct and reliable?
2. What are the beliefs regarding technology adoption among faculty at community colleges across Mississippi?
3. What is the relationship among hope, self-efficacy, and learning goal orientation and beliefs regarding technology adoption?

The foundation for this study was based on the results of previous research involving self-efficacy, goal orientation, hope, and the adoption of new technology by users. As outlined in the review of related literature, self-efficacy, goal orientation, and hope have displayed

positive relationships in educational and professional environments, and self-efficacy and goal orientation have acted as predictors of users adopting new technology successfully. This chapter interprets and discusses the results reported in the previous chapter, considers implications of the findings, address limitations of the study, and offers directions for future research.

### Discussion of Findings

Research question one addressed the reliability of the scales. Analysis of the scales using Cronbach's Alpha provided a strong reliability score for each scale, which indicates that the scales produced consistent results during the study. Confirmatory factor analyses were completed to evaluate the scales; the fit indices for all of the scales ranged from marginal to good. All scale items loaded to the appropriate latent variable, and the paths to the items and latent variable were significant within each model. The development, implementation, and subsequent validation of the scales supplied the first step in creating domain specific measures for evaluating the motivational belief system components, as well as introducing the Faculty Beliefs Regarding Technology Scale, and, therefore, addressed a gap in current research and practice.

Research question two evaluated the beliefs regarding technology adoption among community college faculty. The overall scores for the constructs indicated a high level of perceived Comfort with Technology, Technology Use, and Institutional Support, with faculty members, in general, having highly positive beliefs towards new technology in the adoption of a new Learning Management System.

Surprisingly, female faculty members indicated a statistically significantly higher usage rate of technology than males, which is not the trend in past research (Venkatesh et al., 2003, Venkatesh & Morris, 2000). However, there are a few instances in previous research that indicate positive views towards technology use in females (Colley et al., 1994, Ray et al., 1999), which supports the results of this study. Males and females differ during the decision making process in regards to technology adoption, with males being more positive towards new technology initially (Coffin & MacIntyre, 1999, Whitley, 1997). Male users have a tendency to look at the performance of the technology, whereas females evaluate technology in regards to ease of use and perceived benefits of use (Venkatesh & Morris, 2000). The data that came from this study does not explain why female faculty members indicated a higher usage rate for technology, but it provides an interesting insight in to the idea of gender differences within online instruction. In consideration of the domain specificity of this study, additional studies that would take a more in depth look at this views of males versus females in regards to online instruction, technology usage, and learning management system adoption would be needed to answer the question. Case studies, interviews, etc., would be needed to reach a conclusion regarding the difference in thought processes that lead to the differences in technology usage among men and women, with the studies targeting efficacy beliefs, ease of use, and the perceived benefits of the new technology.

In addition to gender differences with technology use, there were also differences between full time and adjunct faculty members' comfort with technology and the amount of perceived institutional support. Results indicated that adjunct faculty members reported a

statistically significantly greater amount of comfort and institutional support. The roles and responsibilities associated with faculty status may explain these differences. Full time faculty within the Mississippi Virtual Community College (MSVCC) system spend the majority of instructional time within the traditional classroom setting. Online classes often represent overload within their faculty teaching load. The adjunct faculty within MSVCC teach primarily online courses. Given the differing faculty roles for full-time and adjunct faculty within MSVCC, the increased comfort with technology is a job requirement for adjunct faculty. The same line of reasoning applies to beliefs regard institutional support. Adjunct faculty rely heavily on their relationship with the institution's eLearning department for their instructional. Full-time faculty members do not require such a relationship in a traditional classroom setting. As such, that required relationship between adjunct faculty and their institution's eLearning department likely fosters a stronger sense of institutional support among the adjunct faculty.

There was a statistically significantly negative relationship between age and comfort with technology. The older the faculty members reported less comfort with technology. Similarly, there was a statistically significantly negative relationship between years teaching and comfort with technology. As previous research indicated (Venkatesh et al., 2003), older individuals are often less tech savvy than younger counterparts. Therefore, it is reasonable to expect that older faculty members report less comfort using the available online instructional technologies than their younger counterparts.

Another finding was a statistically significantly negative relationship between years teaching online and perceived institutional support. Surprisingly, those who have taught longer

online perceive less institutional support. One possible explanation is that the longer faculty teach online, the more faculty expect of the technology and of the associated support staff. Increased expectations may lead to less perceived support. Alternatively, the longer that faculty teaches online, the greater the likelihood that faculty may encounter instances where they perceived technology support did not meet their needs. Such instances may lead to decreased perceived institutional support. Both hypotheses need further investigation to identify the cause of this finding.

At the institutional level, there were no statistically significant differences among community colleges on any of the technology beliefs regarding adoption measures. However, the common trend within the means is that the larger institutions, which have more funding and staff, presented slightly higher means than the other colleges, even if the differences were not significant in regards to comfort with technology and technology use. The assumption, which is based on the researcher's familiarity with the Mississippi Virtual Community College system, can be made that the larger institutions are supportive of new technology, provide faculty with the opportunity to become familiar with new technology, and have the staffing needed for training and support, which increases faculty's sense of institutional support, particularly in regards to the transition to a new learning management system.

### **Relationship Among Motivation Constructs and Technology Beliefs Regarding Adoption**

Research question three addressed the relationship between the motivational constructs and faculty beliefs regarding technology adoption, which included comfort with technology, technology use, and institutional support. In order to evaluate the constructs as a motivational

belief system, Learning Goal Orientation, Self-Efficacy, Hope Agency, and Hope Pathways, along with Comfort with Technology, Technology Use, and Institutional Support were used to generate a path model to represent the motivational belief system, and its influence on faculty beliefs regarding technology adoption. During the modifications to the model, the paths between Self-Efficacy and Comfort with Technology, Technology Use, and Institutional Support were removed, as well as the paths between Hope Pathways and Technology Use and Institutional Support, due to lack of significance.

As reviewed in chapter three, previous research indicates that the motivational constructs of the motivational belief system have a positive relationship with each other in some form. Self-efficacy and goal orientation are positively intertwined (Ford et al., 1998; Martocchio & Hertenstien, 1999; Payne et al., 2007; Phillips & Gully, 1997; Potosky & Ramakrishna, 2002; Steele-Johnson et al., 2000), with individuals pursuing learning goals feeling more efficacious during active goal pursuit. Hope has been measured against both self-efficacy and goal orientation, and emphasizes all of these goal pursuit components (Snyder, 1994). Hope and self-efficacy are positively correlated (Magaletta & Oliver, 1999; Carifio & Rhodes, 2002), and learning goal orientation has correlated with Hope Theory's agency and pathways in prior research (Roedel et al., 1994). The foundation laid by previous research supported the need to evaluate the relationship between hope agency and pathways (Snyder et al., 1991), self-efficacy (Bandura, 1986), and learning goal orientation (Elliot and Dweck, 1988) as a motivational belief system, where technology adoption is viewed as an opportunity to learn, faculty believe they can

and will adopt technology successfully, and faculty have the believe they will find a way to adopt technology regardless of the obstacles that are encountered.

The model for the motivational belief system presented in chapter four leads to additional questions. Self-efficacy is noticeably missing from the final model, and hope pathways is only significant to comfort with technology. Efficacious thinking has no weight in regards to technology beliefs. Faculty do not need to feel the sense of “I can” in order to experience a sense of comfort with technology, use the technology, or have feelings of institutional support if there is a learning orientation and hopeful agency towards technology use. Self-efficacy correlated positively with the other constructs in previous research, and it positively correlates with the other motivation constructs and the beliefs about technology adoption. However, when considered within a motivational system that includes learning goal orientation and hope, the variance explained by self-efficacy is subsumed by the other constructs and does not significantly contribute to beliefs about technology adoption. Similarly, hope pathways was also correlated with other variables, but when considered within the context of a motivation system, it was only significantly related to comfort with technology.

The individual motivation constructs all significantly correlated with each other and with beliefs about technology adoption. However, when considered within a motivational belief system, only learning goal orientation and hope agency are significantly related to comfort with technology, technology use, and institutional support. These findings highlight the importance of considering individual motivation constructs within a motivational belief system. The motivational system allows researchers to identify which of the motivational variables explain

the greatest amount of variance on beliefs about technology adoption. The findings of this study indicate that technology adoption is increased by a learning orientation towards technology and agentic beliefs about being able to adopt technology. Having the means to adopt technology only leads to increased comfort with technology, and self-efficacy beliefs are not significant within this motivation system as it relates to technology adoption. Most previous technology research explores solitary relationships. This research highlights the importance of a multifaceted systems approach.

### Implications

From a conceptual standpoint, this study highlights the importance of considering motivational constructs within a larger system, or considering a constellation of related measures, when looking at outcomes. Conceptually, many motivation constructs share some overlap with other constructs. Therefore, it is important to identify whether variables share account for similar or different variance among outcome variables. Such an approach allows researchers to develop a better understanding within domains of underlying motivation thought processes that drive beliefs and actions.

### Implications for Practice

Higher education faculty are currently experiencing a demand for flipped and hybrid classrooms. Both instructional modalities require an increased use of supplemental instructional technology that goes beyond the basic capabilities of most learning management systems. The implications of the motivational belief system's influence on technology adoption opens the door

for implementation of motivational trainings that focus on learning orientation and hopeful agentic thinking. Such an approach would stand in contrast to current technology support efforts that focus on training within specific technological tools to develop one's efficacy, or belief that they can, use the technology. The results of this study indicate it may be more beneficial to approach training in ways that helps develop a learning, or mastery, oriented mindset and agentic thinking. In doing so, users will be introduced to new technology in such a way that their desire to learn will be stimulated along with their will to learn and use the new technology, instead of simply being presented with the technology and how to use it. Further training on implementing the technology in to their instruction and best practices would further increase learning orientation and agentic thinking among the users.

Another implication is the negative relationship between years teaching online and perceived institutional support. More experienced online users likely demand more from technology support. Such users have likely figured out how to solve many of the mundane problems they encounter with technology, so when support is required, they have likely already tried the basic scripts that technology support specialists will walk them through to solve the problem. Perhaps, more experienced users need to be given a different preference when technology support is requested such that their requests get bumped up to directors to work through their request. Although this needs further exploration, it could create a differentiated technology support system that better meets the needs of more experienced online faculty and power users.

In addition to changing the way in which training is conducted, the domain specific measures of learning goal orientation, self-efficacy, and hope offer instructional support staff/trainers the opportunity to evaluate their faculty in regards to the motivational belief system and design interventions to target areas in which a potential user may be low, as well as offering access to potential beta testers and change agents amongst the high scoring faculty. By providing faculty members with the components of hopeful thinking, self-efficacy regarding the use of the technologies, and coupling these with the instructor's desire (e.g. learning goal orientation) to meet student and institutional needs, the motivational belief system comes in to play as a training modality that serves multiple instructional needs, and therefore, should increase student success via increasing the instructors' success in and out of the classroom.

#### Limitations

In chapter one, the following limitations to the study were noted:

1. Data collection will take place during the Spring of 2015. Therefore, the study findings will be indicative of the time period of the study.
2. The data collection and intent of the study will be limited to the Mississippi community college system.
3. The participants of the study are full time and adjunct faculty from the Mississippi community college system. Therefore, the results cannot be generalized to all higher education faculty. The participants of the study will be selected based on their voluntary and informed consent to participate in the data collection process. Therefore, the study will be limited to the number of faculty members who agree to participate in the research process.

Upon completion of the study, these limitations are still representative of overarching concerns regarding the research process. Of the estimated 1,200 participants estimated to participate in the study, the survey collected 292 responses. A larger sample size would have provided an accurate representation of Mississippi's community college faculty; therefore, the results cannot be generalized to all higher education faculty and may not be fully representative of Mississippi's community college faculty. In regards to the sample size, it should be noted that the Qualtrics emailer was used for survey distribution. Increased online security at the community colleges causes firewalls and filters to be in place that blocks emails sent via an external source in a mass distribution. It is possible that many of the electronic surveys did not reach the intended recipient. Another limitation of the study is reflected within research question one, which focused on the introduction of domain specific measures for the motivational belief system components. The development of effective research instruments includes many evolutions of the instruments. While the measures used within the study were scrutinized and edited multiple times before deployment, the results of the confirmatory factor analysis indicate that measures, while accurately collecting the intended data, are in need of additional adjustments in preparation for future deployments. These limitations are reflective of the study and are addressed in depth in the following section.

#### Directions for Future Research

While replicating the study with a larger sample population is a legitimate next step for future research, there are other opportunities nestled within the results to consider. Within the domain specific measures for the motivational belief system lies opportunities to strengthen and

refine the measures for use within future research, including generating reliable items that can be used for research across multiple domains. The motivational belief system can be further studied as a working model by evaluating the individual constructs and their relationship as a system on a larger scale in regards to education, the workplace, and within other domains, such as athletics, healthcare, etc.

In addition to expanding upon the results of the current study, what has been learned regarding the motivational belief system and technology adoption can be applied in multiple facets of higher education. As noted above, the motivational belief system offers the option of a new training strategy for instructional support staff within higher education institutions to aid instructors in meeting the demands for varying instruction with supplemental technologies. Within this lies the opportunity for additional research with the motivational belief system and its influence on technology adoption as increased use of instructional technology is seen worldwide, in and outside of the traditional classroom. Additional types of studies and data collection methods would provide in depth answers to many of the questions the data collected in this study could not answer. Interviews, case studies, etc, are some of many options for evaluating the motivational beliefs system and beliefs regarding technology adoption on a larger scale.

### Conclusion

This chapter presented a discussion of the data analysis and findings of a survey administered to community college faculty who had experienced a transition to a new Learning Management System. The discussions and recommendations made in this chapter were based within the findings of the study, as well as in the results of previous related research. The

study's purpose was to assess community college faculty's beliefs regarding adoption of technology, establish reliable and distinct domain specific measures for the motivational constructs, and evaluate the relationship between hope, learning goal orientation, and self-efficacy as a motivational belief system in regards to beliefs regarding technology. Based on the findings of the study, recommendations were made for further research, which included additional development of the domain specific measures and studying the application of the motivational belief system in training and support and its impact on technology adoption. The findings of the study conclude that beliefs regarding technology adoption are positive among community college faculty, and hope agency, hope pathways, and learning goal orientation work together in synergy to produce a motivational belief system that empowers users to adopt new technology in to their instruction.

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## Appendix A

### Hope, Self-Efficacy, and Goal Orientation as a Motivational System in the Adoption of a Learning Management System Among Community College Faculty

#### Research Measure

##### **Demographic Information:**

1. What is your sex?
2. In what year were you born?
3. Please specify your ethnicity.
4. How many years have you been teaching?
5. What is your faculty status at your institution? (Full Time Faculty, Staff/Adjunct, Adjunct)
6. At which institution are you employed? (Drop down with schools under the MCCB.)

##### **Faculty Beliefs Regarding Technology:**

On a scale of 1 to 10, please rate how much you agree with the statements below.

1 = I don't agree with the statement at all.

10 = I completely agree with the statement.

1. Adapting to and using LMS related technology is easy for me.
2. Software updates that change features do not intimidate me.
3. My institution's LMS meets elearning needs.
4. E-Learning provided a satisfactory amount of information regarding the transition to the current LMS prior to training.

5. The administration at my institution was fully committed to the LMS during the adoption process.
6. The elearning staff is very knowledgeable about the LMS.
7. What are features in the LMS that you use most often?
8. How have you integrated the LMS in to your instruction?
9. I have a faculty goal of using the LMS as much as possible to improve my instruction and help my students.
10. What type of content do you use when developing your course(s) in the LMS? (Personally developed content, publisher content, blend between personal and publisher resources)
11. I think that the LMS can be used to provide high quality instruction.
12. I am using/want to use features of the LMS in my instruction.

**Goal Orientation:**

On a scale of 1 to 10, please rate how much you agree with the statement regarding your learning/usage of the Learning Management System.

1 = I don't agree with the statement at all.

10 = I completely agree with the statement.

1. I prefer challenging myself to use the LMS to its full capabilities in my courses so I will learn a great deal about the system.
2. I enjoy learning about LMS features for the sake of learning and improving my course design.
3. I like exploring options that force me to think hard and solve problems as I am designing my course.

4. I am willing to attend additional LMS trainings if I can learn more about the system and how to use it.

5. I am excited about the opportunity to familiarize myself with new instructional technologies.

**Self-Efficacy:**

Please rate how certain you are that you can use the following features included in the Learning Management System.

1 = I do not feel I can use the feature

10 = I am completely certain that I can use the feature.

1. I can create and modify an announcement.
2. I can moderate a quiz (adding additional attempts and/or time).
3. I can add annotations to an assignment in SpeedGrader.
4. I can import .QTI files for quizzes and question banks.
5. I can communicate with individual students, groups, and entire classes via Conversations (the inbox).
6. I can embed videos and images in the rich text editor.
7. I can set/change availability and due dates for assignments.
8. I can create modules with special requirements.
9. I can add files to my course individually, as a group using drag and drop, and as a .zip file.
10. I can use course statistics to track my students' performance.
11. I can control the information that I receive from the LMS by adjusting my notification preferences.

12. I can copy my courses in the LMS for future terms and/or create export files of my courses.

**Hope:**

Directions: Read each item carefully. Using the scale shown below, please select the number that best describes YOU and put that number in the blank provided.

1 = Definitely False

2 = Mostly False

3 = Somewhat False

4 = Slightly False

5 = Slightly True

6 = Somewhat True

7 = Mostly True

8 = Definitely True

1. I can think of many ways to resolve a problem with my course in the LMS.

2. I energetically pursue learning about the features within the LMS.

3. I can easily find solutions to problems in my course.

4. I can think of many ways to include elements in my courses that are important to me.

5. Even when others get discouraged, I know I can find a way to solve the problem.

6. My past experiences have prepared me well for adapting to new instructional technologies.

7. I've been pretty successful designing my courses.

8. I meet the goals that I set for myself when learning new instructional technologies.

Office for Research

Institutional Review Board for the  
Protection of Human Subjects

THE UNIVERSITY OF  
**ALABAMA**  
R E S E A R C H

October 27, 2014

Christa Sayers Wilhite  
ESPRMC  
College of Education  
The University of Alabama  
Box 870242

Re: IRB # EX-14-CM-119 "Hope, Self-Efficacy, and Global Orientation as a Motivational System in the Adoption of a Learning Management System among Community College Faculty"

Dear Ms. Wilhite:

The University of Alabama Institutional Review Board has granted approval for your proposed research.

Your protocol has been given exempt approval according to 45 CFR part 46.101(b)(2) as outlined below:

(2) Research involving the use of educational tests (cognitive, diagnostic, aptitude, achievement), survey procedures, interview procedures or observation of public behavior, unless:

(i) information obtained is recorded in such a manner that human subjects can be identified, directly or through identifiers linked to the subjects; and (ii) any disclosure of the human subjects' responses outside the research could reasonably place the subjects at risk of criminal or civil liability or be damaging to the subjects' financial standing, employability, or reputation.

Your application will expire on October 26, 2015. If your research will continue beyond this date, complete the relevant portions of Continuing Review and Closure Form. If you wish to modify the application, complete the Modification of an Approved Protocol Form. When the study closes, complete the appropriate portions of FORM: Continuing Review and Closure.

Should you need to submit any further correspondence regarding this proposal, please include the assigned IRB application number.

Good luck with your research.

Sincerely,



Carpanlato T. Myles, MSM, CIM, CIP  
Director & Research Compliance Officer  
Office for Research Compliance



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Hope, Self-Efficacy, and Goal Orientation as a Motivational System in the Adoption of a Learning Management System Among Community College Faculty

You are invited to participate in a research study regarding hope theory, self-efficacy, and goal orientation in community college faculty in regards to the adoption and use of a new learning management system. You were selected to participate because you are currently using Canvas by Instructure at your institution. This study is being conducted by Christa Sayers Wilhite, a graduate student in the College of Education at the University of Alabama. Mrs. Wilhite is being supervised by Dr. Cecil Robinson, an associate professor in the College of Education at the University of Alabama. The survey should not take more than thirty (30) minutes of your time to complete.

**Explanation of Study:** Considering that there is little research exploring the relationship between the motivational constructs of goal orientation, self-efficacy, and hope as a motivational set, the motivational set's relationship to technology adoption, or the availability of domain specific measures regarding the motivational set, the purpose of this research is to address this gap by introducing domain specific measures for the adoption and use of a new learning management system regarding self-efficacy, goal orientation, and hope and asking the following research question: What is the relationship between hope theory, self-efficacy, and goal orientation as a cognitive motivational set in faculty during the transition to a new learning management system, and how does this motivational system relate to the adoption and use of the new system? **Data will be collected via electronic survey during the Fall 2014 semester. Should you choose to participate, you will receive reminders via email regarding the completion of the survey.**

**Confidentiality of Study:** The survey will be completed electronically, and your responses to the survey will be confidential. The researcher and supervisor will have access any information related to the survey and generated data, and all data will be stored on a USB drive that will remain in the primary researcher's possession.

**Compensation and Risk:** Should you opt to participate in the study, you will not be offered any financial compensation or other reward for participation. There is no direct benefit to you for completion of the study.

**Voluntary Participation:** Taking part in this study is voluntary. Your decision to participate or not participate will have no effect on your relations with your institution or the Mississippi Community College Board. If you decide to participate, you may withdraw your consent and discontinue participation at any time. The alternative is to not participate in the study. Should you decide to participate, you may complete the online surveys at a time and place of your convenience.

**Questions Regarding Study:** If you have any questions regarding this study now or at any time during your participation, you may contact Christa Sayers Wilhite at [csstewart3@crimson.ua.edu](mailto:csstewart3@crimson.ua.edu) or 601-635-6249 or Dr. Cecil Robinson at [crobinso@bamaed.ua.edu](mailto:crobinso@bamaed.ua.edu) or 205-348-6801.

UA IRB Approved Document  
Approval date: 10-27-14  
Expiration date: 10-26-15

If you have questions, concerns, or complaints about your rights as a participant in this research study, you may contact Ms. Tanta Myles, the Research Compliance Officer at UA, at 205-348-8461 or toll-free at 1-877-820-3066. You may also ask questions, make suggestions, or file complaints and concerns through the IRB Outreach website at [http://osp.ua.edu/site/PRCO\\_Welcome.html](http://osp.ua.edu/site/PRCO_Welcome.html) or email us at [participantoutreach@bama.ua.edu](mailto:participantoutreach@bama.ua.edu). After you participate, you are encouraged to complete the survey for research participants that is online at the outreach website or you may ask the investigator for a copy of it and mail it to the UA Office for Research Compliance, Box 870127, 358 Rose Administration Building, Tuscaloosa, AL 35487-0127.

By clicking on the survey link below, you indicate that you understand the purpose of the research study "Hope, Self-Efficacy, and Goal Orientation as a Motivational System in the Adoption of a Learning Management System Among Community College Faculty" and agree to participate in the study at this time. You may withdraw consent at any point and discontinue participation at any time by exiting out of the survey.

UA IRB Approved Document  
Approval date: 10-27-14  
Expiration date: 10-26-15